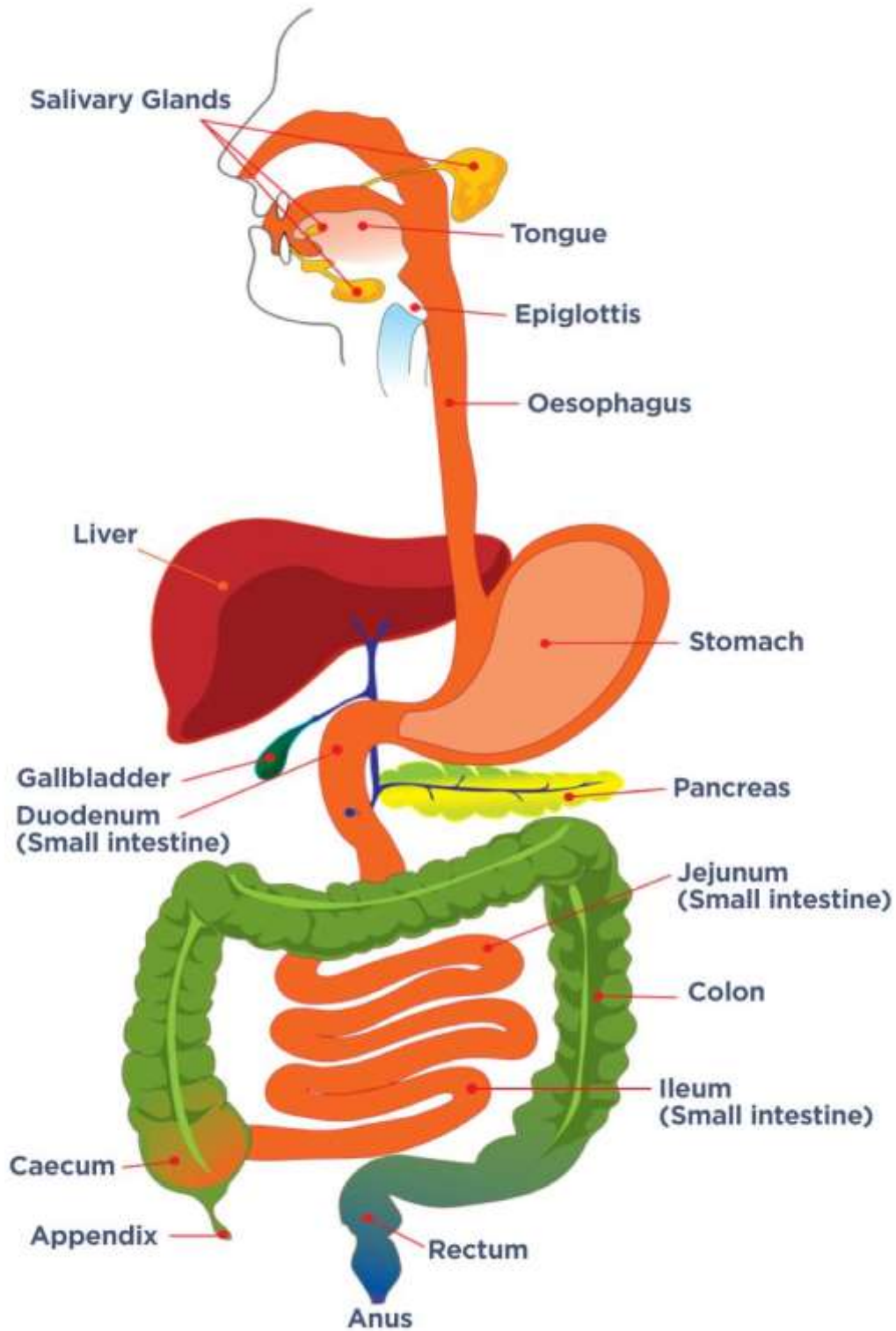
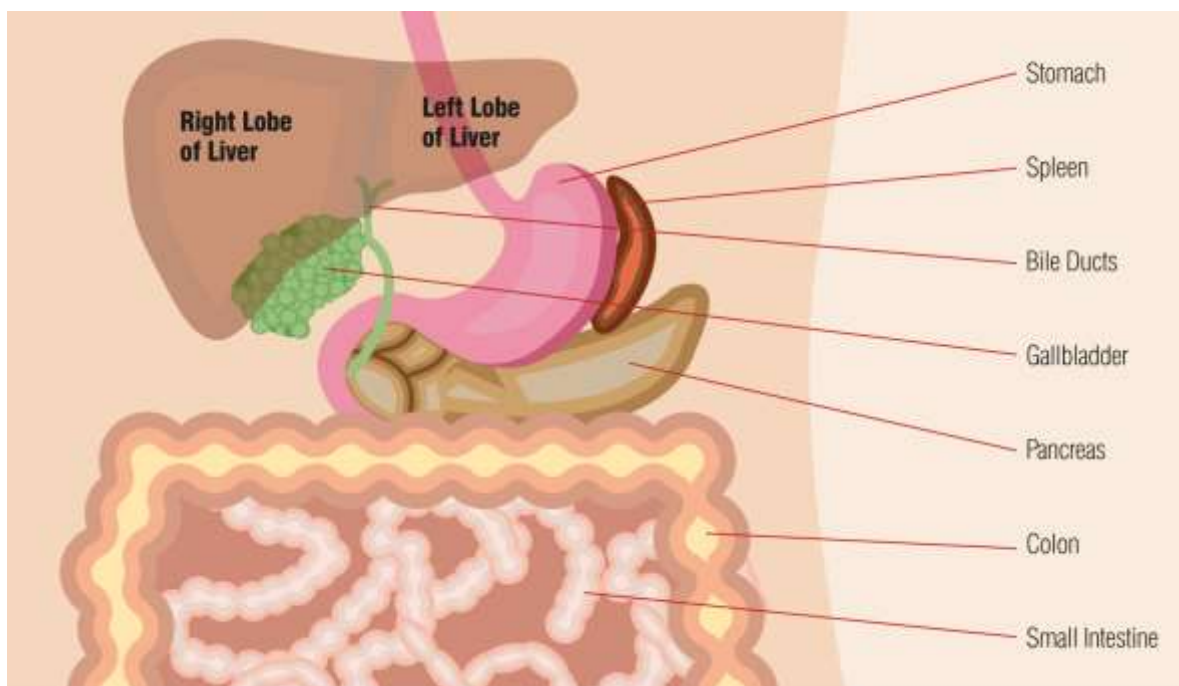


THE DIGESTIVE SYSTEM



This factsheet is about liver cancer

The liver is the largest organ in the body. It lies under the lower part of the rib cage on the right hand side of the body but stretches across the middle about as far as the left nipple. The liver performs many important functions in the body including processing of many of the body's waste products (or toxins) to render them harmless. It also produces bile, which is not only needed to digest certain foods, but also helps to absorb several important vitamins. It is helpful to think of the liver as a 'factory', which manufactures many important proteins and other chemical substances that the body needs to work normally. The liver helps regulate the energy and fluid stores in the body.



About liver cancer

The condition is the 18th most common cancer in the UK with more men being affected than woman. The incidence of it increases with age, with around nine out of ten cases occurring in those over the age of 55. The lifetime risk of developing liver cancer is around one in 120 for men and one in 215 for women.

There are two categories of liver cancer.

Primary liver cancer

This is when the cancer begins in the cells of the liver itself. Incidence of primary cancers is increasing year on year and there are several types of primary liver cancer. The most common are:

- **Hepatocellular carcinoma (HCC):** the most common type and begins within the cells in liver tissue.

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- **Hepatomas:** these also originate in liver tissue cells, usually occurring in people who have an underlying liver disease, such as scarring of the liver (also known as cirrhosis) and can also be a complication of hepatitis.
- **Cholangiocarcinoma:** this is a bile duct cancer which originates in the cells which line the tubes (or ducts) that carry bile from the liver. There is no association between cirrhosis and the development of cholangiocarcinoma.

Whichever type they are, most primary liver cancers are now referred to as an HCC.

Secondary liver cancer (sometimes called metastatic liver cancer)

In the UK secondary liver cancer is about 30 times more common than primary liver cancers. Secondary liver cancer starts in cells in other organs of the body but then spreads to the liver. It is possible for several cancer deposits (metastases) to occur in the liver. The usual sites in the body where primary tumours develop before spreading to the liver include the lung, breast, large bowel, stomach and pancreas. Cancer cells usually spread to the liver from the primary tumour through the bloodstream.

There are other, much less common, types of cancers that can occur in the liver which will be diagnosed and treated appropriately.

What are the causes of liver cancer?

- **Primary liver cancer:** this usually occurs in a liver in which cirrhosis (or scarring) has developed. There are three common causes of cirrhosis which are all preventable: alcohol related liver disease, non-alcoholic fatty liver disease (due mainly to obesity) and illnesses such as hepatitis B and hepatitis C. In the UK, excessive alcohol consumption is the commonest cause of liver cirrhosis and this is a condition that has increased dramatically in recent years. Long term infection (hepatitis) with certain viruses (for example hepatitis B or C virus), or a rare condition which leads to increased iron deposited in the liver can also result in liver cirrhosis, increasing the risk of primary liver cancer. Patients known to have liver cirrhosis who are at increased risk of liver cancer will often have screening blood tests and liver scans in an attempt to detect any signs of cancer at an early stage of its development.
- **Secondary (Metastatic) liver cancer:** in general, the more advanced the primary cancer becomes, the more likely it is to have spread to the liver. Conversely, if cancer can be detected at an early stage when it has not yet spread, the prospects of being cured are greater.

What are the usual symptoms of Liver Cancer?

Cancer in the liver may not cause any symptoms and can be picked up incidentally. It might have been discovered because your doctor performed some blood tests to see how well the liver was working, or an abnormal area may have been observed during a scan. Liver cancer can cause discomfort or pain in the upper part of the abdomen. Some patients may feel sick or can be generally unwell. Others may lose their appetite. Liver cancer can cause jaundice. If the liver is enlarged, you might notice a lump in the upper part of the abdomen, or under the rib cage on the right hand side.

How is liver cancer diagnosed?

The doctor will use a combination of observation (to look for jaundice), examination of the liver (to feel if it is enlarged) and patient history. If liver cancer is suspected, further tests will be requested urgently. These can include:

- **Liver function tests:** these are blood tests which show how well the liver is working.
- **Ultrasound scan or X-ray:** this can show if the liver is enlarged and possibly the site and extent of a tumour.
- **MRI scan:** these will show the extent of the cancer and help to determine whether it is primary or secondary liver cancer.

How is liver cancer treated?

When a patient is diagnosed with liver cancer, their case will be discussed at a special meeting by a team of experts known as a Multi-Disciplinary Team or MDT. The MDT will include physicians, surgeons, radiologists (doctors who specialise in cancer scans), pathologists (doctors trained to examine specimens of cancer tissue) and oncologists (cancer treatment doctors) and they will all consider the best options for treatment. Sometimes there is the opportunity to enter a clinical trial when newer, potentially better treatments, are being compared to established treatments. Without these important trials, we will not know how to improve the outcome for patients in the future.

The treatment selected usually depends on the type of cancer that you have and how much of the liver is affected by the cancer.

Primary liver cancer

- **Surgery:** if you develop a small HCC and the function of the remaining liver is good enough, it may be possible to remove the cancer surgically but if the liver cirrhosis is more advanced, the stress of an operation even to remove a small cancer may be too much.
- **Liver transplantation:** this replaces the cancerous liver with a healthy donor organ, and is an option but is a major operation. Patients need to be carefully assessed and be fit enough in other regards to be considered for liver transplantation.
- **Radio Frequency Ablation (RFA):** where an instrument releasing damaging sound waves (called 'radio frequency ablation' or 'RFA', is placed directly into the cancers to kill the cancer cells. Radiofrequency ablation works by passing electrical currents in the range of radio frequency waves between the needle electrode and grounding pads placed on the patient's skin.
- **Targeted Drug Therapy:** the blood vessels to the area of the liver containing the cancer can be injected with chemotherapy drugs (or other medicines) to try to kill the cancer cells, or with substances that block the blood vessels and starve the cancer of its blood supply.
- **Stents:** Cholangiocarcinomas (bile duct cancers) often cause narrowing or blockage of the main bile ducts, causing jaundice. The blockage can be relieved by placing a plastic or metal tube (known as a 'stent') through the narrowing. This is usually done with an endoscope, a flexible tube passed through the mouth.

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Newer treatments are currently being developed which, it is hoped, will use targeted substances to make cancer cells extremely sensitive to light, which is then directed onto the cancers.

Secondary liver cancer

Treatment of secondary (metastatic) liver cancer often depends on where the cancer started.

- **Surgery:** in some patients where the cancer has spread to the liver from the bowel, both the bowel cancer and the secondary liver cancer can be removed by an operation. This depends on the size and number of cancers present and in which part of the liver the cancer spread is located.
- **Chemotherapy:** most other types of secondary cancers cannot be removed surgically and so are usually treated with drugs (chemotherapy) to slow down the growth of cancer cells. This may also relieve discomfort by shrinking larger cancers, which are pressing on the capsule surrounding the liver. Many types of chemotherapy treatments are available, often given as an outpatient procedure.

Although most liver cancer treatment is carried out in hospital under the care of the MDT, the GP will be informed and updated and will provide support and advice. In addition, specialist nurses who work in hospitals and the community trained in the care of patients who have cancer (such as Macmillan nurses), are there to support and advise on any aspect of treatment or care in or out of hospital.

How can liver cancer affect you?

As already discussed, there are various different treatments that are used to reduce the size of liver cancer. However, cancers within the liver can be difficult to cure as many are diagnosed alongside long-term liver problems such as cirrhosis. The outlook for secondary liver cancer often depends on how well the initial cancer is being controlled.

What should I ask my doctor?

Patients often ask how this condition will affect their chances of survival, and this can be a very difficult question to answer on an individual basis. Some people prefer to know all the facts about their condition and how it is going to affect their life. Others choose not to ask particular questions. There is no right or wrong approach.

Once the type of liver cancer that you have is known, it is worth appreciating that your doctor will be pleased to discuss any aspect of your illness that you choose. If you have any questions about your own treatment, don't be afraid to ask your doctor or the nurse who is looking after you. It often helps to make a list of questions for your doctor and to take a close friend or relative with you.

For more information about research in this area please contact Guts UK Charity on

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