

IMAGE GUIDED PERCUTANEOUS LIVER ABLATION



What is Liver Ablation?

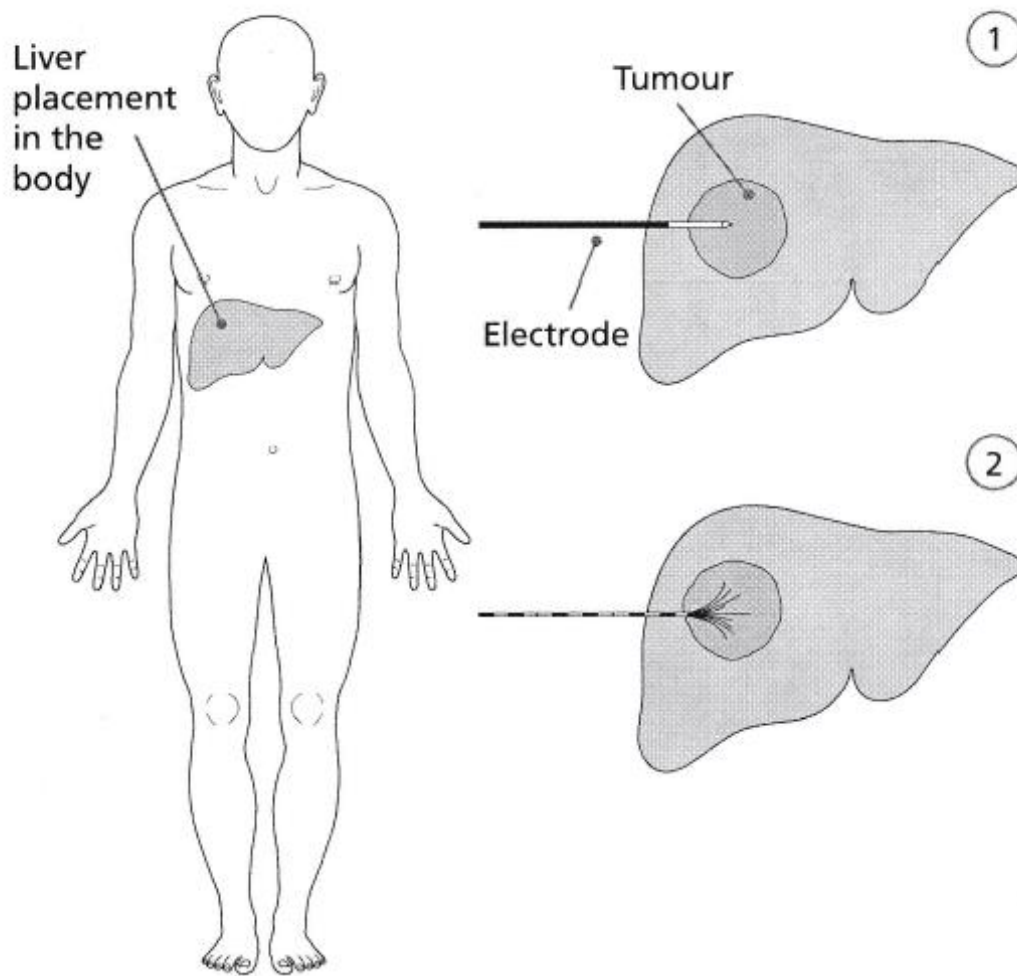
Liver ablation is a treatment that is used for some types of cancer. It is performed by a consultant intervention radiologist (IR doctor). It can also be given by a consultant surgeon during an operation. There are two different techniques used, depending on which is more technically suitable, the position and size of liver cancer.

Microwave Ablation (MWA)

MWA uses heat to destroy the cancer cells via a special needle inserted into the liver. It works by agitating the water molecules to generate heat which destroys (ablates) the cancer cells. The cancer cells die and the area which has been treated gradually shrinks and eventually becomes scar tissue. (Figure 1)

Radiofrequency Ablation (RFA)

RFA uses heat to destroy cancer cells. It involves using a special needle called electrode to apply an electric current to the tumour cells. The electrical current heats the cancer cells to high temperatures and destroys them. (Figure 2)



When is Liver Ablation used?

Liver ablation mainly used to treat liver cancer that has started in the liver (primary), or a cancer that has spread to the liver from another part of the body (secondary/ metastasis).

Primary Liver Cancer

Liver ablation is suitable for people who already have liver disease, such as cirrhosis (scarring of liver) and for those who cannot have surgery. However, it may not be suitable if the liver is too damaged and cannot cope with the ablation.

Liver ablation treatment is most suitable for tumours up to 3 cm in size. Larger tumours can be treated but may need repeat/ multiple treatments.

Secondary liver cancer

Liver ablation is used to treat cancers that have spread to liver from bowel.

It works best for lesions up to 3 cm in size. Larger lesions will need multiple/ repeat ablations. Sometimes chemotherapy is given before liver ablation to try and shrink the tumours and to help ablation work more effectively.

How is liver ablation performed?

Before the treatment is performed, you will see an IR doctor, who will explain the procedure to you along with any requirements pertinent to your specific case. This is a good time to ask any questions about anything that you are unsure about. You will be asked to sign a form (consent) at this time or later, on the day of procedure.

On the day of treatment, you will have been asked not to eat anything for several hours beforehand. If you take any drugs that thin your blood such as Aspirin, Clopidogrel or Warfarin, it is very important you let us know immediately. Your IR doctor will inform you when to stop taking these.

You will be given a hospital gown to change into and a fine tube (cannula) will be placed into a vein in your arm or hand.

The procedure most commonly is performed in the imaging department/ CT scanner, and sometimes in the operating theatre. It is performed under a general anaesthetic with at least one overnight stay post procedure.

The ablation needle is placed through a pinhole sized skin incision overlying the liver, into the part of liver containing the lesion. This placement is performed under ultrasound or x-ray guidance. Once satisfactory position is achieved, the electrode is switched on and treatment performed. How long treatment is applied for will depend on the size of the tumour. An area of healthy tissue around the tumour is usually also treated as there may be small cancer cells that can't be seen. The treated tissue slowly shrinks and heals over time.

What are the benefits of liver ablation?

Liver ablation can be used to try and cure cancer, to reduce its size or to relieve symptoms (palliative treatment). It can be given alone, or along with other

cancer treatments. It may be used when surgery is not possible, for a variety of reasons including position of lesion, medical and patient preference. Repeat ablations may be needed if treated tumour starts to grow again.

What are the possible side effect and complications of liver ablation?

There are some side effects you may have for a few days after your treatment-

1. Pain or discomfort- You will be prescribed painkillers to take regularly for a few days, if required, following the ablation. Sometimes patient have some pain in their shoulders after treatment in liver. For most people pain or discomfort lasts for less than a week. If pain persist beyond this, please contact your doctor for advice.
2. Feeling unwell with raised temperature- You might feel a little unwell for the first few days and have a slightly raised temperature. You will probably feel tired as well. This is seen more in patients who have larger tumours ablated. This is a normal reaction and is caused by your body clearing away the dead cells. Drinking plenty of fluids will help. It's a good idea to take it easy for a few days, but you should be able to get back to your usual activities after about a week. If your temperature doesn't return to normal or if it goes above 38 degrees centigrade contact your doctor as this may be due to infection.

Possible complications after ablation are low. The main complications that can occur are-

1. Bleeding from incision site- there is usually very little bleeding during the treatment. Occasionally, some people have more serious bleeding during or immediately after the procedure. The risk of this is less than 3%. You will be closely monitored for a few hours after treatment, so that any bleeding can be dealt with straight away.
2. Burns- Specifically during RFA, pads are placed under the upper part of both thighs to collect the returning electrical current used to kill the cancer. Very rarely, despite our best efforts, some current can “escape” and cause a burn to your thigh. Any burn is usually not serious and heals on its own.
3. Infection- Some patients can develop an infection at the site of treatment. You may be given antibiotics to prevent this. Infection could present as redness, discharge, pain at treatment site or generally feeling unwell. If you think you might have an infection, contact your doctor for advice.
4. Damage to organs close to the area being treated- This is rare as we normally use different forms of imaging to guide the electrodes.

However, some people are at a greater risk because of size or location of tumour. In a few cases, patients may experience damage to their bile ducts causing jaundice or to their bowel. Sometimes fluid is placed within the abdomen or chest to reduce the risk of injury further.

What is the follow up after the procedure?

You will be given an appointment to have repeat CT or MRI scan after your liver ablation to see how well the treatment has worked. We will discuss the results with you in clinic and any further treatment that may be recommended.