

Understanding NICE guidance

Information for people who use NHS services

Treating secondary cancer of the liver using microwave (heat) energy

NICE 'interventional procedures guidance' advises the NHS on when and how new procedures can be used in clinical practice.

This leaflet is about when and how microwave (heat) energy can be used in the NHS to treat people with secondary cancer of the liver. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

Interventional procedures guidance makes recommendations on the safety of a procedure and how well it works. An interventional procedure is a test, treatment or surgery that involves a cut or puncture of the skin, or an endoscope to look inside the body, or energy sources such as X-rays, heat or ultrasound. The guidance does not cover whether or not the NHS should fund a procedure. Decisions about funding are taken by local NHS bodies (primary care trusts and hospital trusts) after considering how well the procedure works and whether it represents value for money for the NHS.

This leaflet is written to help people who have been offered this procedure to decide whether to agree (consent) to it or not. It does not describe secondary cancer of the liver or the procedure in detail – a member of your healthcare team should also give you full information and advice about these. The leaflet includes some questions you may want to ask your doctor to help you reach a decision. Some sources of further information and support are on the back page.

What has NICE said?

Although there are no major safety concerns about this procedure, there is not much good evidence about how well it works. If a doctor wants to use the procedure, they should make sure that extra steps are taken to explain the uncertainty about how well it works, as well as the potential risks of the procedure. This should happen before the patient agrees (or doesn't agree) to the procedure. The patient should be given this leaflet and other written information as part of the discussion, including details about other treatment options. There should also be special arrangements for monitoring what happens to the patient after the procedure.

A team of healthcare professionals who are experienced in the management of liver cancer should decide which patients should be offered this procedure.

NICE has encouraged further research into the procedure and may review the procedure if more evidence becomes available.

This procedure may not be the only possible treatment for secondary cancer of the liver. Your healthcare team should talk to you about whether it is suitable for you and about any other treatment options available.

Treating secondary cancer of the liver using microwave (heat) energy

The medical name for this procedure is 'microwave ablation for the treatment of liver metastases'.

The procedure is not described in detail here – please talk to your specialist for a full description.

Liver metastases is the medical term for secondary cancer of the liver, in which cancer that starts in one part of the body (for example, in the bowel) spreads to the liver.

Treatments include liver resection, in which parts of the liver containing cancerous cells are cut away surgically, ablation procedures that use energy sources to destroy the cancer cells, chemotherapy, procedures that block the tumour's blood supply, and radiotherapy.

The aim of the microwave procedure is to destroy the cancerous cells using heat. The procedure is carried out with the patient under local or general anaesthesia. It can be performed during open abdominal surgery, by 'keyhole' surgery, or through a tiny incision in the skin. A special needle or needles are inserted into the tumour(s), using X-rays or scans to guide them, and microwave energy is passed through the needle to heat and destroy the cancer cells.

Summary of possible benefits and risks

Some of the benefits and risks seen in the studies considered by NICE are briefly described below. NICE looked at 8 studies on this procedure.

How well does the procedure work?

In a study of 30 patients with secondary cancer of the liver where the cancer started in the colon or rectum, overall survival was 27 months for microwave ablation and 25 months for resection. Disease-free survival was 11 months

What does this mean for me?

If your doctor has offered you this procedure, he or she should tell you that NICE has decided that although there are no major safety concerns, there are uncertainties about how well it works. This does not mean that the procedure should not be done, but that your doctor should fully explain what is involved in having the procedure and discuss the possible benefits and risks with you. You should only be asked if you want to agree to this procedure after this discussion has taken place. You should be given written information, including this leaflet, and have the opportunity to discuss it with your doctor before making your decision.

NICE has also decided that more information is needed about this procedure. Your doctor may ask you if details of your procedure can be used to help collect more information about this procedure. Your doctor will give you more information about this.

You may want to ask the questions below

- What does the procedure involve?
- What are the benefits I might get?
- How good are my chances of getting those benefits? Could having the procedure make me feel worse?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What care will I need after the operation?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

and 13 months, respectively. In a study of 53 patients, 17% who were treated by resection plus microwave ablation and 11% who were treated by resection alone were still free from cancer after 3 years. After 5 years, 39% and 35% of patients, respectively, had no cancer in the liver. In another study of 74 patients, the average overall survival was 22 months, and disease-free survival was 35% at an average of 25 months.

In a study of 100 patients (83 patients with secondary cancer of the liver), a scan after the procedure showed that the cancer in the liver was completely removed in 98% of patients who had liver metastases and 90–100% of patients who had other secondary cancers.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that key success factors are disease-free and long-term survival.

Risks and possible problems

There were no deaths related to microwave ablation in a total of 6 studies, including 3 studies of 347 patients who had the procedure. The study of 53 patients reported that 1 out of 37 patients who had resection plus

You might decide to have this procedure, to have a different procedure, or not to have a procedure at all.

microwave ablation, and 1 out of 16 patients who had resection only, had a bile leak due to damage in an adjacent bile duct. A total of 4 out of 257 patients with metastases and 14 out of 63 patients with liver metastases had pleural effusion (a build-up of fluid in the space surrounding the lungs). In the study of 74 patients, 7 had minor to moderate pleural effusion at an average of 25 months after the procedure. In a study of 87 patients who had microwave ablation, the procedure had to be stopped in 1 patient because of pain.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. The advisers said that possible or reported problems include abscess, bleeding, infection, pneumothorax (air in the chest cavity, causing the lung to collapse), perforation of the colon, tumour seeding (clumps of cells from the tumour breaking off and growing at a site nearby), and injury to the bile duct. They considered theoretical adverse events to include deterioration in liver function and adjacent organ damage to the kidney, lung or heart.

More information about secondary cancer of the liver

NHS Choices (www.nhs.uk) may be a good place to find out more. Your local patient advice and liaison service (usually known as PALS) may also be able to give you further information and support. For details of all NICE guidance on liver cancer, visit our website at www.nice.org.uk

About NICE

NICE produces guidance (advice) for the NHS about preventing, diagnosing and treating different medical conditions. The guidance is written by independent experts including healthcare professionals and people representing patients and carers. They consider how well an interventional procedure works and how safe it is, and ask the opinions of expert advisers. Interventional procedures guidance applies to the whole of the NHS in England, Wales, Scotland and Northern Ireland. Staff working in the NHS are expected to follow this guidance.

To find out more about NICE, its work and how it reaches decisions, see
www.nice.org.uk/aboutguidance

This leaflet is about 'microwave ablation for the treatment of liver metastases'. This leaflet and the full guidance aimed at healthcare professionals are available at
www.nice.org.uk/guidance/IPG406

You can order printed copies of this leaflet from NICE publications (phone 0845 003 7783 or email publications@nice.org.uk and quote reference N2641). The NICE website has a screen reader service called Browsealoud, which allows you to listen to our guidance. Click on the Browsealoud logo on the NICE website to use this service.

We encourage voluntary organisations, NHS organisations and clinicians to use text from this booklet in their own information about this procedure.