

## Understanding NICE guidance

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Information for people who use NHS services

### Treating liver metastases with microwave ablation

*NICE 'interventional procedures guidance' advises the NHS on when and how new surgical procedures or procedures that use electromagnetic radiation (such as X-rays, lasers and gamma rays) can be used.*

This leaflet is about when and how microwave ablation can be used to treat people with liver metastases in the NHS in England, Wales, Scotland and Northern Ireland. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

NICE has produced this guidance because the procedure is quite new. This means that there is not a lot of information yet about how well it works, how safe it is and which patients will benefit most from it.

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 liver metastases 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.

Interventional procedures guidance makes recommendations on the safety of a procedure and how well it works. 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.



## What has NICE said?

There are still uncertainties over the safety of this procedure and how well it works. If a doctor wants to use microwave ablation for liver metastases, he or she should make sure that extra steps are taken to explain the uncertainty and the likely benefits and 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. There should also be special arrangements for monitoring what happens after the procedure.

A team of specialists that includes a surgeon specialised in the liver, bile duct and gall bladder should be involved in ensuring the right patients are offered this procedure.

The surgeon should use imaging techniques to help guide him or her during the procedure.

NICE also said that there are a number of different devices available to carry out this procedure, and there is some uncertainty about how much microwave energy should be used. NICE has asked doctors to report any side effects to a regulatory body.

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

## Microwave ablation

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

Microwave ablation is a procedure that uses heat from microwave energy to destroy cancer cells. It can be used to treat cancer that has spread (metastasised) to the liver from other parts of the body, usually from the colon or rectum.

The procedure is carried out under a general or local anaesthetic. It can be performed during open abdominal surgery, or by using 'keyhole' surgery (where specialised instruments are inserted through small cuts in the abdomen). In both cases, special needles are inserted into the tumour(s) and microwave energy is used to heat the needles and destroy the cancer cells.

Microwave ablation is one of several treatment options for liver metastases. Alternative procedures include chemotherapy, percutaneous ethanol injection (in which pure alcohol is injected directly into the tumour to kill it), radiofrequency ablation (a similar procedure to microwave ablation but using radio waves), cryoablation (another similar procedure but using extreme cold) or laser ablation (a third similar procedure but using a laser to destroy the tumour). Another option is liver resection, during which cancerous parts of the liver are cut away surgically, but this is not suitable for the majority of patients.

## What does this mean for me?

If your doctor has offered you microwave ablation for liver metastases he or she should tell you that NICE has decided that the benefits and risks are uncertain. 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.

## 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?

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

## Summary of possible benefits and risks

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

## How well does the procedure work?

A study of 30 patients comparing microwave ablation with liver resection showed similar average overall survival and disease-free survival rates following either procedure. Overall survival following microwave ablation was 27 months compared with 25 months following liver resection. Disease-free survival was 11.3 months and 13.3 months, respectively.

Another study of microwave ablation gave an average survival rate of 22 months, with 26 out of 74 patients surviving and free of disease at the end of the study (25 months). In a study of 22 patients with liver metastases treated with microwave ablation, 16 survived beyond the end of the study (17 months). At this time, 7 patients remained disease free.

The expert advisers commented that there are some uncertainties about how well the procedure works. To prevent regrowth, the cancer cells need to be completely destroyed. More information is needed on how well the procedure works in the long term.

## Risks and possible problems

There were no severe complications following microwave ablation in two studies (in a total of 96 patients), and no deaths during the operation in a study of 30 patients comparing microwave ablation with liver resection. The formation of bile duct fistulae (abnormal connections between the bile duct and neighbouring organs) was reported in 1 out of 14 patients in one study and 2 out of 29 patients in another. Liver abscesses also developed in 1 out of 14 patients in one study and 2 out of 29 patients in another.

Other problems reported following microwave ablation included excessive fluid surrounding the lungs (7 out of 74 patients in one study) and minor bleeding beneath the liver (2 out of 74 patients).

The expert advisers stated that bleeding within the peritoneum (the tissue that lines the abdominal cavity), biliary peritonitis (inflammation of the peritoneum due to leakage of infected bile), bowel perforation, blockages in nearby blood vessels and further spreading of the cancer may also occur.

## More information about liver metastases

NHS Direct online ([www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)) may be a good starting point for finding out more. Your local Patient Advice and Liaison Service (PALS) may also be able to give you further advice and support.

### 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. 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](http://www.nice.org.uk/aboutguidance)*

*This leaflet and the full guidance aimed at healthcare professionals are available at [www.nice.org.uk/IPG220](http://www.nice.org.uk/IPG220)*

*You can order printed copies of this leaflet from the NHS Response Line (phone 0870 1555 455 and quote reference N1262).*