

Treating liver cancer with radiofrequency-assisted resection

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 radiofrequency-assisted liver resection can be used to treat people with liver cancer 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 cancer 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 page 6.

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?

This procedure can be offered routinely as a treatment option for people with liver cancer provided that doctors are sure that:

- the patient understands what is involved and agrees to the treatment, and
- the results of the procedure are monitored.

Other comments from NICE

This procedure is one of several options for surgical resection of the liver. It is not yet clear whether this procedure has any advantages over the other treatment options.

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

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

Radiofrequency-assisted liver resection

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

Radiofrequency-assisted liver resection is a type of surgery that can be used to treat liver cancer. The aim of the procedure is to remove the cancerous part of the liver with as little blood loss as possible. The suitability of radiofrequency-assisted resection for liver cancer depends on the location, number and size of the tumours.

The procedure is done under a general anaesthetic. Making only small openings in the abdominal wall, the surgeon locates the liver and marks out the section that needs to be removed. He or she then uses a probe to transmit high frequency radio waves along the outline of the section he or she has marked out. The radio waves are absorbed into the liver, clotting the blood.

What does this mean for me?

NICE has said that this procedure is safe enough and works well enough for use in the NHS. If your doctor thinks radiofrequency-assisted liver resection is a suitable treatment option for you, he or she should still make sure you understand the benefits and risks before asking you to agree to it.

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?

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 seven studies on this procedure.

How well does the procedure work?

In one study of 15 patients treated with radiofrequency-assisted liver resection for secondary cancers (where the cancer had spread from another part of the body), no further tumours were seen in the liver after an average of 7 months.

In five further studies, the average amount of blood lost during the procedure ranged from 30 ml to 120 ml. The procedure took an average of 90–220 minutes to complete. However, a study comparing radiofrequency-assisted liver resection with another method of controlling bleeding during surgery (called 'clamp crushing') found no significant difference in total blood loss between the two techniques.

The expert advisers stated that minimising blood loss during liver resection is an important goal. However, it is uncertain whether the radiofrequency-assisted procedure offers any significant advantage over other techniques.

Risks and possible problems

In one study, 3 out of 40 patients undergoing radiofrequency-assisted liver resection had serious leakage of bile (a fluid made in the liver) compared with 2 out of 40 patients treated with clamp crushing. Bile leakage also occurred in 4 out of 170 patients in one study and 1 out of 42 in another. In a further study, 1 out of 8 patients had significant blood loss that needed further treatment during the procedure. Abscesses and infections were rare, occurring in just three patients across all seven studies. A blocked artery was reported in the lungs of one patient 2 weeks after surgery and another patient had worsening of heart failure symptoms.

The expert advisers stated that the risks of this procedure include the possibility of tumour cells entering the bloodstream and causing cancer elsewhere and a higher risk of infection and bile leakage. They also acknowledged that if tumours are located in the centre of the liver, important structures may be damaged during resection.

More information about liver cancer

NHS Direct online (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

This leaflet and the full guidance aimed at healthcare professionals are available at www.nice.org.uk/IPG211

You can order printed copies of this leaflet from the NHS Response Line (phone 0870 1555 455 and quote reference N1213).

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