

# Radiofrequency ablation of hepatocellular carcinoma

**Understanding NICE guidance –  
information for people considering the  
procedure, and for the public**

July 2003



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**Radiofrequency ablation of hepatocellular carcinoma**  
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Copies of this booklet can be ordered from the NHS Response Line; telephone 0870 1555 455 and quote reference number N0242. A version in Welsh and English is also available, reference number N0243. Mae fersiwn yn Gymraeg ac yn Saesneg ar gael hefyd, rhif cyfeirnod N0243. The NICE interventional procedure on which this information is based, *Radiofrequency ablation of hepatocellular carcinoma*, is available from the NICE website ([www.nice.org.uk](http://www.nice.org.uk)). Copies can also be obtained from the NHS Response Line, reference number N0241.

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## About this information

This information describes the guidance that the National Institute for Clinical Excellence (NICE) has issued to the NHS on a type of treatment called **radiofrequency ablation**. It is not a complete description of what is involved in the procedure – the patient’s healthcare team should describe it in detail.

NICE has looked at whether radiofrequency ablation is safe enough and works well enough for it to be used routinely for people with a type of cancer affecting the liver called hepatocellular carcinoma.

To produce this guidance, NICE has:

- looked at the results of studies on the safety of radiofrequency ablation and how well it works
- asked experts for their opinion
- asked the views of the organisations that speak for the healthcare professionals and patients and carers who will be affected by this guidance.

This guidance is part of NICE’s work on ‘interventional procedures’ (see ‘Further information’ on the last page).

## About radiofrequency ablation

Hepatocellular carcinoma is a type of cancer that starts in the liver – it isn't cancer that has spread to the liver from other places in the body. With hepatocellular carcinoma, there are often several cancerous areas in different places in the liver. Doctors have tried to develop ways of destroying these cancerous areas that avoid the need to remove parts of the liver surgically.

Radiofrequency ablation uses heat to destroy the part of the liver that contains the cancer. Lasers and microwaves have also been used to destroy the cancer using heat. Other (non-heating) methods of damaging the cancerous area involve using medicines, chemicals or cold temperatures.

Radiofrequency ablation involves placing one or more electrodes (probes through which an electrical current passes) into the cancerous area ('tumour'). The electrodes are used to heat and destroy the tumour. In most cases, the electrodes (which are shaped like needles) can be inserted into the liver without the need to make cuts. The doctor carrying out the procedure uses images (like ultrasound images) to see what he or she is doing inside the body.

If a person is having surgery to remove part of his or her liver because of hepatocellular carcinoma, radiofrequency ablation is also sometimes carried out on the remaining part of the liver during the same operation.

## **How well it works**

### **What the studies said**

Although the studies that NICE looked at have only followed patients who have had radiofrequency ablation over quite a short period of time, it appears that people who have radiofrequency ablation may have a better outlook than people treated with other methods of destroying the cancer. This is because radiofrequency ablation seems to destroy more of the cancerous area(s) in the liver than some of the other methods. And radiofrequency ablation also seems to destroy the cancer more completely than the other methods.

## **Risks and possible problems**

### **What the studies said**

The results of studies that looked at the safety of radiofrequency ablation are not clear cut, but it appears that complications (things that can go wrong) following the procedure are uncommon

and may happen less often with radiofrequency ablation than with some of the other methods. Possible complications include liver abscess, where an area of the liver becomes inflamed and filled with pus, and damage to important structures in and around the liver.

### **What the experts said**

The experts thought that, for every 100 people who have radiofrequency ablation for cancer affecting the liver, 3 to 5 people would have one or more complications.

### **What NICE has decided about radiofrequency ablation**

NICE has considered the evidence on radiofrequency ablation. It has recommended that when doctors use radiofrequency ablation for people with hepatocellular carcinoma, they should be sure that:

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

NICE has also said that radiofrequency ablation should only be used for people when there's a good chance that it will be successful. The decision about a patient's suitability should be made by a team of different healthcare professionals that includes a surgeon specialising in operations on the liver (a 'hepatobiliary surgeon').

Finally, NICE has recommended that when radiofrequency ablation is carried out, the team doing it should use methods of imaging such as ultrasound or CT scans to monitor what is happening. (CT stands for computed tomography. By following what is happening using imaging in this way, there is less chance that the electrodes will be put in a place where they may cause unwanted damage.)

## What NICE's decision means for you

Your doctor may have offered you radiofrequency ablation. NICE has looked at this procedure because it is relatively new. NICE has decided that the procedure is safe enough and works well enough for use in the NHS.

Nonetheless you should understand the benefits and risks of radiofrequency ablation before you agree (consent) to it. Your doctor should discuss the benefits and risks with you. Some of these benefits and risks may be described above.



## Further information

You have the right to be fully informed and to share in decision-making about the treatment you receive. You may want to discuss this guidance with the doctors and nurses looking after you.

You can visit the NICE website ([www.nice.org.uk](http://www.nice.org.uk)) for further information about the National Institute for Clinical Excellence and the Interventional Procedures Programme. A copy of the full guidance on radiofrequency ablation is on the NICE website ([www.nice.org.uk/IPG002guidance](http://www.nice.org.uk/IPG002guidance)), or you can order a copy from the website or by telephoning the NHS Response Line on 0870 1555 455 and quoting reference number N0241. The evidence that NICE considered in developing this guidance is also available from the NICE website.

If you want more information on cancer affecting the liver, a good starting point is NHS Direct Online ([www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk)).

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