

Percutaneous radiofrequency ablation of renal cancer

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

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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 procedure called percutaneous 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 percutaneous radiofrequency ablation is safe enough and works well enough for it to be used routinely for the treatment of renal cancer (cancer of the kidney).

To produce this guidance, NICE has:

- looked at the results of studies on the safety of percutaneous radiofrequency ablation and how well it works
- asked experts for their opinions
- asked the views of the organisations that speak for the healthcare professionals and the 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 page 10).

About percutaneous radiofrequency ablation

Renal cancer is cancer of the kidney. There are few symptoms in the early stages; the first thing people tend to notice is blood in the urine. Other symptoms include pain or swelling or both in the side.

The usual treatment for renal cancer is an operation to remove some or all of the kidney. Doctors have tried to develop ways to destroy the cancer cells without the need to remove parts of the kidney surgically. These include 'keyhole' surgery to remove the tumour, and methods of damaging the cancerous cells that involve using heat, sound waves or cold temperatures.

Percutaneous radiofrequency ablation uses heat to destroy cancer cells in the kidney. It 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. The electrodes (which are shaped like needles) can be inserted into the kidney through the skin, without the need to make large cuts. The doctor uses images (like ultrasound images) to see what he or she is doing inside the body.

Percutaneous radiofrequency ablation may be used for patients who have small tumours, or who cannot have surgery, or do not wish to have surgery.

How well it works

What the studies said

There have not been many studies that have looked at this procedure. In one study of eight people, all but one patient was cancer-free after nearly a year and a half. Other studies showed the treatment worked in over three-quarters of the patients who had it. It did seem, however, that larger tumours needed more than one treatment.

Although the procedure seemed to work, the number of patients looked at was very small. There were also differences between the patients, for example, how big the tumour was or where it was in the kidney, that might have affected how well the procedure worked. Because of this and the way the studies had been reported, it was difficult to decide how well the procedure worked in the long-term.

What the experts said

One expert thought the bigger the tumour, the less likely the procedure was to work, even if it was repeated. Also, the experts agreed that it was not possible to be sure of how well the procedure works in the long term because so few patients had been studied.

Risks and possible problems

What the studies said

The most common problem seen in patients was a build up of blood near the kidney, called a haematoma. Other problems included pain in the abdomen, and 'ureteric stricture', which is narrowing of the tube that runs from the kidney to the bladder, meaning that urine cannot drain properly.

What the experts said

The experts thought the most common problems were likely to be bleeding, infection and ureteric stricture. They also thought that cancer cells may be spread where the electrodes were inserted, and there could be damage to the bowel.

What has NICE decided?

NICE has considered the evidence on percutaneous radiofrequency ablation of renal cancer. Although the procedure appears safe enough for use, NICE has decided that there are limitations in the available evidence on how well it works. It has decided that, although limited evidence seems to suggest that the procedure can shrink the tumour, there is not enough evidence on whether it improves the patient's symptoms, and how long patients live afterwards. If a doctor wants to carry out this procedure, he or she should make sure that the patient understands what is involved and that there are still uncertainties over how well the procedure works. There should be special arrangements in place so that the patient only agrees (consents) to the procedure after this discussion has taken place.

NICE has also decided that the procedure should normally only be used for patients who are not able to have surgery and it should only be offered after they have been assessed by a specialist team of health professionals that should include a urologist (a doctor who is specially trained to deal with disorders of the kidney and urinary tract) and an interventional radiologist (a doctor expert in using x-rays and scans to guide treatment by 'keyhole' surgery rather than open surgery).

Doctors should monitor what happens to all patients who have percutaneous radiofrequency ablation of renal cancer. Longer-term research is needed and NICE may look at the procedure again if new information becomes available.

Other comments from NICE

It is difficult for doctors to tell if all the cancer has been destroyed because of the limitations of the techniques used to measure this. Also, not much is known about how small kidney tumours progress naturally, so it is difficult to know how long a patient would live without treatment.

NICE also thought that the size of the tumour and where it was in the kidney would have an effect on how well this procedure works – results are likely to be better if the tumour is small and close to the surface of the kidney.

What the decision means for you

Your doctor may have offered you percutaneous radiofrequency ablation. NICE has considered this procedure because it is relatively new. NICE has decided that there are uncertainties about the benefits of percutaneous radiofrequency ablation that you need to understand before you agree to it. Your doctor should discuss the benefits and risks with you. Some of these 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) for further information about the National Institute for Clinical Excellence and the Interventional Procedures Programme. A copy of the full guidance on percutaneous radiofrequency ablation is on the NICE website (www.nice.org.uk/IPG091guidance), or you can order a copy from the website or by telephoning the NHS Response Line on 0870 1555 455 and quoting reference number N0702. The evidence that NICE considered in developing this guidance is also available from the NICE website.

If you want more information on cancer of the kidney, a good starting point is NHS Direct (telephone 0845 4647) or NHS Direct Online (www.nhsdirect.nhs.uk).

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