

Radiofrequency Ablation (RFA) of kidney tumours

Your doctor has recommended radiofrequency ablation (RFA) to treat a tumour in your kidney. This factsheet explains the procedure and answers some of the questions you may have. Please ask your medical team or clinical nurse specialist if you have further questions or if there is anything you do not understand.

What is a radiofrequency ablation?

This procedure is carried out under general anaesthesia and involves the placement of a thin needle through your skin. This allows the passage of a low electric current directly into the target tumour which heats the cancer cells to a very high temperature and destroys (ablates) them. The procedure uses ultrasound, computerised tomography (CT) and magnetic resource imaging (MRI) guidance.

Radiofrequency ablation is used to treat renal cell carcinoma (kidney tumours). It is a viable and effective treatment option if you have one kidney or for those who might have difficulty with surgery.

What are the benefits and risks of radiofrequency ablation?

Complications are rare. Listed below are some of the benefits and risks which may occur. Your doctor will discuss these with you.

Benefits

- The aim of treatment is to destroy or reduce the cancer in the kidney
- RFA is a relatively quick procedure and recovery is rapid so that chemotherapy may be resumed almost immediately (if you are having this treatment)
- No surgical incision is needed - only a small 'nick' in the skin which does not require stitches
- Unlike surgical treatment, this procedure allows the kidney to be preserved (kept intact)
- It does not affect blood pressure
- It may or may not affect renal (kidney) function depending on how large an area needs to be treated.

Risks

- Some pain or discomfort - severe pain is rare
- Slight fever



- Generally feeling unwell
- Bleeding
- Infection requiring antibiotics is rare (less in one 1000 people)
- Damage to nearby organs - this is rare as the doctors use scans to guide the electrode in place
- Extension of heat to the part of the kidney that collects urine or to the ureter may rarely result in a urine leak or a narrowing that blocks flow of urine to the bladder. When a tumour is near these areas, your doctors may place a temporary stent through your urethra into the ureter. Cool water is then slowly dripped through this stent during ablation to protect against heat injury to these structures.

We will expose you to ionising radiation when we carry out this examination. We are all exposed to ionising radiation from naturally occurring sources such as cosmic rays, certain types of soil and rocks and even food we eat. Ionising radiation can cause cell damage that in turn, after many years, may turn cancerous. The radiation associated with your exam will therefore carry a very moderate risk which is less than 1%. This risk will be far outweighed by the benefits of having this exposure. We will also tailor the amount of radiation we use to you.

How do I prepare for radiofrequency ablation?

You will need to have had some blood tests and an electrocardiogram (ECG beforehand (within two to seven days before your procedure day) to check that you do not have an increased risk of bleeding. You will also need to be seen by an anaesthetist, as the procedure is done under general anaesthesia. Please tell your doctor:

- If you are taking any blood thinning medications such as **warfarin** or **aspirin** as you will need to stop taking these several days before the procedure
- If you are taking any other medications; your doctor will tell you which medications you may continue take
- If you have any allergies
- If you are pregnant.

Who will be doing the radiofrequency ablation?

A doctor called an interventional radiologist. These doctors are able to see what they are doing by using ultrasound, CT and MRI. They will be assisted by radiology nurses and radiographers. There will be an anaesthetist who will send you to sleep and look after you throughout the procedure.

Where will the procedure take place?

You will need to be admitted to hospital as an inpatient. The procedure itself will be carried out in the CT room in the radiology department.

Can I bring a relative or friend?

You may bring someone with you but for safety reasons they cannot accompany you into the x-ray room.



When you arrive at the hospital

- Please report to the day care area
- On arrival, we will place a small tube (cannula) in a vein in your arm, so that you can be given fluids and receive medication while in the radiology department
- You will be allocated a bed, although you may not go there until after the procedure
- We will ask you to change into a hospital gown
- When the time comes for your procedure, you can either walk to the x-ray department or be taken there on a trolley
- When you arrive at the x-ray department, a nurse will greet you and the radiologist will explain the procedure and discuss it with you before you sign the consent form. If you have any questions, this is a good time to ask the radiologist.
- If you have any allergies, you must tell your doctors. If you have previously reacted to intravenous contrast medium (the dye used for kidney x-ray and CT scans) also let your doctors know.

On the day of the procedure

You **must** not eat anything for **six hours** before the procedure, although you will be allowed to drink clear fluids until **two hours** before the procedure. You should not bring any valuables with you in case of loss or theft.

How long will it take?

It takes between one and three hours depending on how many tumours are being treated, where they are and how many applications are needed.

What happens afterwards?

- You may need more medication to prevent pain and nausea as the anaesthetic wears off
- You will stay in the recovery room until you are fully awake and ready to go back to your ward
- You will be able to eat and drink as normal once you are back on your ward
- You will stay in hospital for one to two nights
- You will have a blood test in morning before you leave the hospital.

After I have been discharged, do I need to report any problems?

Please call your medical team if you experience the following:

- Pain
- Fever
- Redness or swelling over the procedure site
- Feeling unwell.



Contact details

If you have any questions or concerns about your procedure, or you are unable to attend for this appointment, please call:

The Radiology Department 020 7808 2571
(Monday to Friday, 8.30am – 4.30pm)

The Royal Marsden Macmillan Hotline 020 8915 6899
(Available 24 hours a day, seven days a week)

Further information

The Royal College of Radiologists
Website: www.rcr.ac.uk
For general information about radiology departments.

Macmillan Cancer Support
Support line: 0808 808 0000
(8am – 8pm, 7 days a week)
Website: www.macmillan.org.uk
For information and emotional and financial support on cancer.

Radiological Society of North America
Website: www.Radiologyinfo.org
For explanations of how procedures are performed and how to prepare for them.

The Royal Marsden PALS Help Centre
Chelsea: 020 7811 8438
Sutton: 020 8661 3759
(Monday to Friday, 10am – 4.30pm)

