

Radiofrequency ablation (RFA)

Radiology

The prevention of infection is a major priority in all healthcare and everyone has a part to play.

- Please decontaminate your hands frequently for 20 seconds using soap and water or alcohol gel if available
- If you have symptoms of diarrhoea and/or vomiting, cough or other respiratory symptoms, a temperature or any loss of taste or smell please do not visit the hospital or any other care facility and seek advice from 111
- Keep the environment clean and tidy
- Let's work together to keep infections out of our hospitals and care homes.

Introduction

The aim of this leaflet is to explain the procedure for patients undergoing radiofrequency ablation (RFA). This leaflet is not meant to replace informed discussion between you and your doctor, but can act as a starting point for outlining risks and benefits.

What is radiofrequency ablation?

Radiofrequency ablation (RFA) uses heat generated by radio waves to kill cancer cells. Radiofrequency is a type of electrical energy. Ablation means destroying completely. You have radiofrequency ablation through a probe (electrode) that goes through the skin into the tumour. The electrical current from the probe heats the cancer cells to high temperatures which destroys them.

Why do you need radiofrequency ablation?

From previous tests, scans, ultrasound or computerised tomography (CT), and/or biopsy, suggests that you may have a tumour. This may be a primary cancer, the original cancer in the part of the body where it started, or secondary cancer, where cancer cells that have spread to another part of the body and formed a new tumour there.

You may have radiofrequency ablation alone or with other treatments to get rid of the cancer, to control its growth or control symptoms.

Who has made the decision?

The choice about which treatment is best for you will be made together with your doctors (urologist and radiologist). This will be based on the risks and benefits of the treatment and your individual circumstances.

Consent

We must seek your consent for any treatment or procedure beforehand. A written consent will be obtained from yourself by a doctor to give permission to have the procedure done. Your doctor will explain the risks, benefits and alternatives where relevant before you sign the consent. A referral will be made and your appointment will be arranged. If you are unsure about any aspect of the procedure or treatment proposed please do not hesitate to ask for more information.

What are the benefits of having a radiofrequency ablation?

Radiofrequency ablation can be performed percutaneously – for example, with the probes being placed directly through the skin and with no need for a large incision. It is minimally invasive so where you maybe high risk from traditional surgery (and/or not a candidate for surgery) you may be lower risk for RFA.

Procedures will be performed under general anaesthetic however, under certain circumstances you may not be fit for major surgical procedures but you may be fit enough to have a general anaesthetic for RFA (as it is minimally invasive).

Complications generally are lower and recovery times are much faster when compared to traditional open surgery.

What are the potential risks of having a radiofrequency ablation?

- **Risk of thermal damage** (heat) to structures other than tumour, such as bowel or blood vessels and cause a bowel perforation or bleeding. Such damage is usually apparent soon after the procedure and can be dealt with promptly, usually percutaneously (through the skin) or very occasionally surgery
- **Narrowing of the ureter**, (the tube from the kidney to the bladder) this may cause the kidney not to drain properly
- **A collection of blood** (haematoma) near the kidney
- **Urinoma** (a collection of fluid resulting from a urine leak)
- **Nerve damage affecting the muscles**

- **Discomfort or mild pain**
- **Generally feeling unwell** with a raised temperature for a few days
- **Infection**, but this is rare
- **General anaesthetic**, there are some risks involved but all doctors and nurses involved have appropriate training in their use and the actual incidence of such risks are low. You will be seen in a pre-admission to clinic to assess your individual risk factors
- **Recurrence of the tumour** after a radiofrequency ablation procedure. The exact risks vary from patient to patient and follow up scans (usually at 3 to 4 month intervals to begin with) to examine the ablated area will be undertaken
- **Death** as a result of this procedure is extremely rare

Radiation:

- Ionising radiation may cause cancer many years or decades after the exposure. We are all at risk of developing cancer during our lifetime. 50% of the population is likely to develop one of the many forms of cancer at some stage during our lifetime. It has been estimated that undergoing this procedure may increase the chances of this happening to you to about 0.1 %. The requesting doctor and the doctor that will be performing your examination feel that the benefit of having the test or treatment outweighs the risk from the exposure to radiation

Please contact the X-ray department as soon as you receive this appointment if you think you may be pregnant.

Contrast agent: The “dye” that is used when computerised tomography (CT) scans are obtained can have side effects for a minority of patients:

- 3 in 100 patients experience nausea and hot flushes
- 4 in 10,000 patients have more serious effects including breathing difficulties

If a side effect does occur the doctors, nurses and radiographers are trained to deal with it.

Are there any alternative treatments and what if I decide not to have it done?

The consultant in charge of your care will discuss the alternatives with you, which may include surgery. They will also discuss the consequences of no treatment.

Are there any special preparations required?

Following your consent, you will receive an appointment to go to the pre-operative clinic where the nurses there will ask you questions about yourself, previous medical history and any allergies, and the nurses will perform blood tests.

- Then you will receive a procedure appointment date for you to be admitted onto a ward. Your procedure is usually first on the list, you will be asked not to eat or drink for 4 hours prior to your admission time
- You will then be seen by an anaesthetist, he will assess you prior to the anaesthetic
- If you have any allergies or have previously had a reaction to the dye (contrast agent), you must tell the radiology staff before you have the procedure

If you are taking the following medication and the doctor has not discussed them during consent please contact the X-ray department when you receive this information; Acenocoumarol, Apixaban, Aspirin, Bivalirudin, Dabigatran, Dalteparin, Danaparoid, Dipyridamole, Edoxaban, Enoxoparin (Clexane), Fondaparinuxm, Heparin, Phenindione, Tinzaparin, Warfarin.

Who will do the procedure?

An interventional radiologist will perform the procedure. They have special expertise in interpreting the images and using imaging to guide the needles.

Where will the procedure take place?

The procedure will take place in the computerised tomography (CT) scanning room within the radiology department; the radiology staff will liaise with your nurse and porters to arrange your transfer.

What will happen before the procedure?

On arrival from the ward you will be asked your full name, address, date of birth and your arm band (hospital patient identity band) will also be checked, this is routine. You will be asked to undress and put on a hospital gown if you have not already done so.

You will then be taken to the induction room where the anaesthetist will place you under a general anaesthetic.

What will happen during the procedure?

Once you are asleep there you will be taken into the scanning room, where you will be transferred onto the scanning couch usually face down (the kidneys are toward your back, being face down will make access easier and safer) although rarely you may lie on your back or side (depending on the precise location of the tumour. The anaesthetist, nurses and radiographers will make sure you are safe and in the correct position for the procedure, and your dignity will be maintained at all times.

A computerised tomography scan will be performed for the radiologist to further plan the treatment and confirm the best means of access to the tumour. Using the scans, the point of entry for one or more needles are marked on the skin.

The area of the skin to be used is cleaned with an antiseptic solution and local anaesthetic (a medication used to numb an area of the body to reduce pain) may be used. A biopsy may be taken prior to the needles being inserted, and then the needles are guided into the tumour, using the scan images to ensure they are in the right place. The ablation is then undertaken, possibly with several areas being targeted and the needles being manipulated several times.

On completion you will be taken to our recovery area and when the anaesthetist is satisfied you have 'come around' from the anaesthetic you will be transferred back to your ward.

Will it hurt?

You should feel no pain at all as you will be under a general anaesthetic. After the procedure your pain should be controlled by simple pain killers.

How long will it take?

Every patient is different and it is not always that easy to predict; however, it can take up to 2 to 3 hours. You will have up to 6 hours bed rest on the ward and you will have your blood pressure and heart rate monitored regularly during this period.

What happens afterwards?

Most patients stay and are observed in hospital during the day following the procedure and are then discharged home later that evening. There may be circumstances where you may not be suitable to be done as a day-case procedure, which your doctor will discuss with you.

Most patients experience some discomfort following the procedure and this is usually managed by simple analgesia (pain relief) taken in tablet form. A fever may be felt 1 to 2 days following the procedure and there may be a sensation of “feeling under the weather”. This does not represent infection in the treated tumour. To reduce the risk of infection you will be given antibiotics at the time of the procedure.

What will the advice be when I go home?

- You will need somebody to collect you
- You will need someone with you for 24 hours
- Advised to rest for a period of one week
- No driving for a similar period. Further information can be found on the DVLA website: <https://www.gov.uk/guidance/general-information-assessing-fitness-to-drive>

The needles are very small and the dressings are usually simple plasters and can be removed after 48 hours, if there is continued discharge or bleeding from the needle sites you should seek medical advice either from your G.P. or NHS helpline on 111 and explain the procedure you have had.

Will I receive a follow up appointment

After you have been discharged, a follow-up appointment to see your doctors will be made. A follow-up scan will be arranged.

Trainees

A radiology trainee (qualified experienced doctors training in radiology) or occasionally a student may be present during the examination. If you would prefer them not to attend, please let a member of radiology staff know.

How to contact us

If you have any personal access needs, require wheelchair access or wish to speak to a member of staff for further information please contact the interventional radiology department 01902 307999 ext. 86344 between 08:30 and 16:30 as the department cannot help with queries outside of these hours.

Angiography Suite / Interventional Radiology

Second floor radiology

New Cross Hospital

Wolverhampton

West Midlands

WV10 0QP

Patient Advice and Liaison Service

New Cross Hospital 01902 695362

Email: rwh-tr.pals@nhs.net

Further information

Further information about your examination is available from The British Society of Interventional Radiologists at:

<https://www.bsir.org/patients/kidney-tumour-ablation/>

Also, at NICE.org at:

<https://www.nice.org.uk/guidance/ipg353/resources/treating-renal-cancer-with-radiofrequency-energy-probes-passed-through-the-skin-into-the-tumour-pdf-315819613>

English

If you need information in another way like easy read or a different language please let us know.

If you need an interpreter or assistance please let us know.

Lithuanian

Jeigu norėtumėte, kad informacija jums būtų pateikta kitu būdu, pavyzdžiui, supaprastinta forma ar kita kalba, prašome mums apie tai pranešti.

Jeigu jums reikia vertėjo ar kitos pagalbos, prašome mums apie tai pranešti.

Polish

Jeżeli chcieliby Państwo otrzymać te informacje w innej postaci, na przykład w wersji łatwej do czytania lub w innym języku, prosimy powiedzieć nam o tym.

Prosimy poinformować nas również, jeżeli potrzebowaliby Państwo usługi tłumaczenia ustnego lub innej pomocy.

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਰੂਪ ਵਿਚ, ਜਿਵੇਂ ਪੜ੍ਹਨ ਵਿਚ ਆਸਾਨ ਰੂਪ ਜਾਂ ਕਿਸੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਿਚ, ਚਾਹੀਦੀ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

ਜੇ ਤੁਹਾਨੂੰ ਦੁਭਾਸ਼ੀਏ ਦੀ ਜਾਂ ਸਹਾਇਤਾ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

Romanian

Dacă aveți nevoie de informații în alt format, ca de exemplu caractere ușor de citit sau altă limbă, vă rugăm să ne informați.

Dacă aveți nevoie de un interpret sau de asistență, vă rugăm să ne informați.

Traditional Chinese

如果您需要以其他方式了解信息，如易读或其他语种，请告诉我们。

如果您需要口译人员或帮助，请告诉我们。