

Kidney Tumor Ablation– For Patients

Radiofrequency Ablation, sometimes referred to as RFA, is a minimally invasive treatment for cancer. It is an image-guided technique that heats and destroys cancer cells.

In radiofrequency ablation, imaging techniques such as ultrasound, computed tomography (CT) or magnetic resonance imaging (MRI) are used to help guide a needle electrode into a cancerous tumor. High-frequency electrical currents are then passed through the electrode, creating heat that destroys the abnormal cells.

Cryoablation is similar to RFA in that the energy is delivered directly into the tumor by a probe that is inserted through the skin. But rather than killing the tumor with heat, cryoablation uses an extremely cold gas to freeze it. This technique has been used for many years by surgeons in the operating room, but in the last few years, the needles have become small enough to be used by interventional radiologists through a small nick in the skin, without the need for an operation. The "ice ball" that is created around the needle grows in size and destroys the frozen tumor cells.

What kidney tumors are treated with ablation?

Ablation is used to treat kidney tumors such as renal cell carcinoma. Ablation can also be used to treat cancerous tumors in various other organs in the body.

What are the patient criteria?

Ablation of the kidney tumors is a viable and effective treatment option if you:

- Have one kidney.
- Have other medical conditions which might prevent surgery.
- Are older and might have difficulty with surgery or postsurgical recovery.
- Have tumors of less than four centimeters in size.
- Have a familial predisposition (family history) to multiple kidney tumors.

Radiofrequency ablation may also be used pre-operatively to decrease blood loss during surgery.

What are the advantages of Ablation?

- Effective treatment for small cancers
- Minimally invasive, with no large skin incision
- Minimal risk to patient
- Typically little or no pain
- Minimal hospital stay
- Can be repeated if new cancer appears

What can the patient expect?

Image-guided, minimally invasive procedures such as radiofrequency or cryoablation are most often performed by a specially trained interventional radiologist in our interventional radiology suite. Ablation is often done on an outpatient basis. Ablation is performed using a small needle electrode that is inserted through the skin and into the tumor.



Knowledge that will change your world

Using imaging-guidance, the interventional radiologist will insert the needle electrode through the skin and advance it to the site of the tumor. For a large tumor, it may be necessary to do multiple ablations to ensure no tumor tissue is left behind.

Will I be "put out" (be under general anesthesia) for Ablation?

No. This procedure is done under local anesthesia. Most of the patients also receive intravenous sedation, which makes the procedure easier to tolerate. The amount of sedation given generally depends upon the patient tolerance. It is necessary for you to be awake enough to communicate easily with the physician during the procedure. However, some patients receive enough sedation that they have amnesia and cannot always remember parts or all of the actual procedure.

What is the recovery time?

Pain immediately following ablation can be controlled by pain medication given through intravenous (IV) or intramuscular (IM) injection. Afterward, any mild discomfort can be controlled by oral pain medications. The patient should be able to resume usual activities within a few days. Only about two percent of patients will still have pain a week following radiofrequency ablation.