Kidney Cancer: Ablation Therapy

What is ablation therapy?

Ablation therapy is cancer treatment that destroys small tumors. There are two main types of ablation therapy used to treat kidney cancer:

- **Radiofrequency ablation(RFA).** An electric current is used to make high-energy waves that heat and kill cancer cells. This is the type of ablation therapy most often used for kidney cancer.
- **Cryoablation.** Extremely cold gas is put right into the tumor to freeze and kill cancer cells.

Both types are done by putting a needle-like probe into the tumor. In most cases, the probe is put in through your skin. An ultrasound, MRI scan, or CT scan is used to guide it into the tumor and then watch and control the damage that's done. Ablation therapy doesn't cause a lot of damage to nearby tissues. But sometimes more than one treatment is needed.

When might radiofrequency ablation (RFA) be used for kidney cancer?

Your healthcare provider may advise RFA if:

- You have only one kidney.
- Your kidney without the tumor isn't working well.
- You have other health conditions that make you unable to have surgery.
- You're an older adult and surgery would be too hard on your body.
- The tumor is small (large enough to be seen on medical imaging but not larger than 4 cm or 1 ½ inches).
- The cancer is on the surface of the kidney and not too close to other organs.
- The cancer has spread to other organs, such as your lungs or liver.
- You have cancer that has come back, or you have more than one kidney tumor.
- You have a family history of multiple kidney tumors.
- You'll have surgery but need RFA first to treat the tumor area to help prevent bleeding during surgery. (The heat closes the small blood vessels around the tumor.)

When might cryoablation (cryotherapy) be used for kidney cancer?

Your healthcare provider may advise cryoablation if one or more of the following applies to you:

- Your tumor is small (large enough to be seen on medical imaging but not larger than 4 cm or 1 ½ inches).
- You're an older adult and surgery would be too hard on your body.
- You have only one kidney.

What are the possible risks of ablation therapy?

All procedures have risks. The risks of ablation therapy include:

- Pain that needs pain medicine
- Infection where the probe is put into your body
- Damage to the treated kidney
- Damage to other nearby parts of your body (it depends on where the tumor is)
- Postablation syndrome. About 1 in 4 people have flu-like symptoms 3 to 5 days after the procedure that may last several weeks.

Talk with your healthcare provider about which risks apply most to you.

Before the procedure

- Your healthcare provider will likely do blood tests to make sure that your blood clots normally and to see how well your liver and kidneys are working.
- Tell your provider about all the prescription and over-the-counter medicines, herbs, and supplements you're taking. You may need to stop using some of these for a time before the procedure. This is often done for blood thinners, aspirin, and other nonsteroidal anti-inflammatory drugs, such as ibuprofen.
- Tell your provider about any allergies that you have. This includes allergies to anesthesia or contrast dye.
- Tell your provider if you are pregnant or think you might be pregnant.
- Your provider will tell you not to eat or drink anything starting the night before the treatment.
- Arrange for someone to drive you home after the procedure.

During the procedure

This procedure will be done by an interventional radiologist. This healthcare provider will work with your urologist to plan your treatment. The procedure may follow these basic steps:

- You'll be given a gown to wear and will lie on an exam table.
- Your blood pressure, heart rate, and pulse will be tracked during the procedure.
- If anesthesia is needed, the nurse will put an IV (intravenous) line in your arm or hand to give you this medicine. (Anesthesia is the medicine used to make you sleep and not feel pain during treatment.)
- Your healthcare provider will clean the skin where the probe will go in. A thin needle might be used to put medicine that numbs the area (called local anesthetic).
- A small cut will be made in your skin. The probe will go in there. In some cases, more than one cut may be needed.
- Your provider will use imaging scans to help guide the probe to the tumor. This may be done with a CT scan, MRI, or ultrasound.
- For RFA, a high-frequency electrical current will be sent through the probe to kill the cancer cells. Your healthcare provider may need to do this at more than one place. A grounding pad will be put on your leg or back.
- For cryoablation, the probe’s tip will release a very cold gas to freeze the tumor and kill the cancer cells.
- At the end of the procedure, the probe is taken out. The skin is covered with a bandage.

After the procedure

The procedure takes 1 to 3 hours. You'll be taken to the postanesthesia care unit (PACU) to be kept track of as you wake up from anesthesia. You will likely stay there until you're fully awake, stable and ready to go home. You'll likely be able to go home the same day. However, some healthcare providers recommend an overnight stay for observation. You may have mild pain or nausea. Your healthcare provider can give you medicines to help with these side effects.

You can go back to normal activity after a few days, or as directed by your healthcare provider.

Working with your healthcare provider

Talk with your healthcare providers about what signs to look for after treatment and when to call them. Make sure you know what number to call with questions. Is there a different number for evenings and weekends?