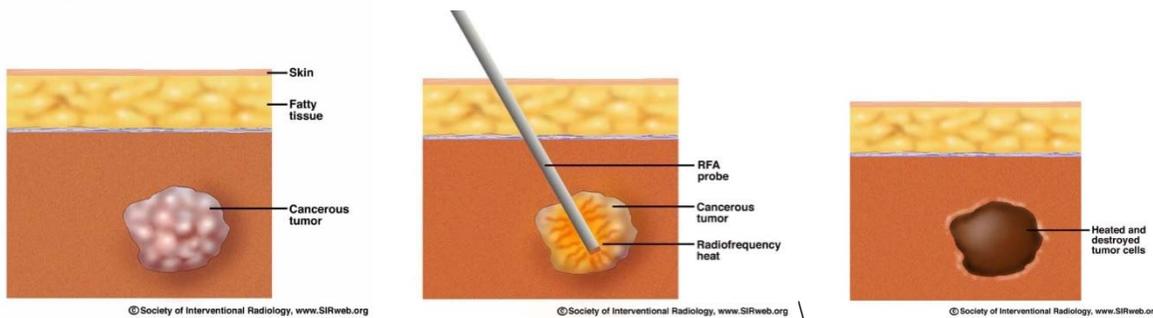


NIH Clinical Center Patient Education Materials

Interventional Radiology: Percutaneous radiofrequency, microwave, or cryo-ablation

A CT- (computed tomography) guided radiofrequency, microwave, or cryo- ablation procedure will reduce the size of or destroy a tumor, mass, or lesion. “Percutaneous” means through the skin; “radiofrequency,” or “microwave,” means using sound waves; “cryo” means using a freezing method; and, “ablation” means to destroy.

See images below:



Pictures courtesy of the Society of Interventional Radiology

Using CT and ultrasound guidance, the radiologist will place a needle-like probe through your skin directly into the tumor, mass, or lesion. Depending on the location and size of the tumor, mass, or lesion, the probe may be removed and replaced, or additional probes may be placed through another area of your skin to improve the success of your treatment. This procedure is not surgery. But like all procedures, complications may occur and may include bleeding, infection, or pain.

Weeks before the procedure

- You can expect that your doctor or health care provider will examine you and ask you to have some blood tests prior to your procedure.
- You will also meet with our anesthesia team members, because you will be given general anesthesia during your procedure.
- You may also need more x-rays or CT scans.
- Bleeding is a rare risk in this procedure, so, if you take aspirin, ibuprofen (Motrin), naproxen (Aleve), or any blood-thinning medicines, notify your NIH team, and also ask the prescribing doctor about what to do. If you take Aspirin, ibuprofen, or naproxen for regular aches and pains, please stop at least seven days before your procedure and use a Tylenol (acetaminophen) product.

Day before the Procedure

- You will be admitted to the Clinical Center, and:
 - You will have an IV catheter placed in an arm so that you can receive intravenous fluids.
 - You will have a physical exam and blood tests.
 - You will not be able to eat or drink anything except sips of water for medicines after midnight.

The Day of the procedure

- The morning of the procedure, you will be taken to the Interventional Radiology Department.

- When you arrive in Interventional Radiology, the radiologist and nurse will discuss the procedure with you and answer your questions.
- You will be asked to sign a consent form giving us permission to perform the procedure. Then, you will change into a hospital gown if you are not already in one.
- After you arrive in the procedure room, the anesthesiologist and staff members will attach monitors to watch your heart and lung function (vital signs) throughout the procedure. These monitors will include EKG, pulse oximetry, blood pressure cuff, and possibly other equipment, depending on your needs.
- The anesthesia doctors will give you a sedative to help you to fall asleep. Also at this time, you will receive an antibiotic to prevent infection.
- The Interventional Radiology staff members will clean your skin with antiseptic soap to decrease risk of infection.
- After numbing the area, the radiologist will use CT and ultrasound to place the needle-like probe(s) through the skin directly into the tumor, mass or lesion.
- The Interventional Radiologist caring for you **may** give you contrast dye through your IV. This dye helps the radiologist see your blood vessels on x-rays so that he or she can place the catheter.
- The radiologist, radiology nurses, technologists, and the anesthesia team stay with you throughout your procedure to check your health condition constantly.

If you are allergic to I.V. contrast, you may need to take some medications before the procedure. These medications will enable you to receive the I.V. contrast safely. Your doctor will prescribe medications during the day before the procedure, often starting 13 hours before the procedure.

After the procedure

- You will have small dressings or bandages placed over the puncture site(s).
- You will have a catheter in your bladder.
- You will go to the PACU (post anesthesia care unit, also known as the recovery room) while you wake up from anesthesia. When you are awake, you will return to your room.
- You will remain on bed rest for several hours.
- If you feel pain, then let your nurse know. You will have medication prescribed as needed.
- You may feel drowsy or sleepy for several hours after the procedure.

Note for patients with diabetes: If you take a medication for diabetes made with metformin, you must stop this medication for 48 hours after the procedure, and have a BUN/creatinine (blood work) to assess your kidney function BEFORE restarting this medicine.

After you return to your room

- If you note any drainage or feel like you might be bleeding under the bandage, then call your nurse.
- Slowly resume your regular diet, unless your primary team tells you otherwise.
- Limit your physical activity as directed by the radiologist or your primary care team.
- Lift nothing heavier than 10 pounds for a week, or as directed by your primary care team.
- You may remove your dressings/bandages after 24 hours.
- You may shower in 24 hours, but do not soak the site for 48 hours, unless your primary care team tells you otherwise.
- Ask your primary care team or cardiologist when to you can resume taking aspirin, ibuprophen (Motrin), naproxen (Aleve), or blood-thinning medications.

Note for patients who have no history of heart failure or kidney problems: Drink 8 to 10, 8-ounce cups of fluid per day for several days to help your body rid itself of the I.V. contrast that you received for your procedure.

When you are at home

Call your primary care team and your local doctor if you have these symptoms:

- Temperature greater than 101 degrees Fahrenheit or chills
- Redness, swelling, bleeding, or drainage at the puncture site(s)
- Unrelieved or increasing pain
- Shortness of breath/difficulty breathing

When we review this information with you, we will give you the names and phone numbers for your team contacts:

Team Contact Name	Phone Number
Interventional Radiology Contact	Phone Number

If you have symptoms that you feel are significant or severe, and you cannot contact your primary care team or local doctor, call 911, or go to your nearest Emergency Room. If possible, bring this sheet with you, and give it to the Emergency Room staff.

This information is prepared specifically for persons taking part in clinical research at the National Institutes of Health Clinical Center and may not apply to patients elsewhere. If you have questions about the information presented here, talk to a member of your health care team. Products/resources named serve as examples and do not imply endorsement by NIH. The fact that a certain product/resource is not named does not imply that such product/resource is unsatisfactory.

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