

MINIMALLY INVASIVE TREATMENT



IS THERMAL ABLATION (TA) THE RIGHT OPTION FOR ME?

Thermal Ablation (TA), which includes Microwave or RadioFrequency Technology, is the preferred treatment when tumors are small, unreachable, or cannot be removed surgically. TA is particularly beneficial for patients who cannot withstand surgery because they have immune deficiencies, are taking blood thinners, or have other medical conditions that would make surgery too risky.

HOW DOES THERMAL ABLATION WORK?

The TA system combines a thermal generator with a needle electrode to deliver therapeutic energy directly to the tumor. The needle is inserted through the skin and is guided to the tumor using imaging technology such as CT or Ultrasound. Energy is activated at the tip to heat and destroy the tumor from the inside out. This process may need to be repeated depending on the tumor size, number, and location. The destroyed tissue is not removed, but gradually shrinks and is replaced by scar tissue.

ADVANTAGES OF TA

- Localized treatment option - destroys cancer cells without harming surrounding healthy tissue.
- Minimally invasive.
- A proven procedure - with positive results in thousands of people.
- Less risky and has fewer complications compared to surgery.
- May be done as an outpatient procedure, often performed without general anesthesia.
- Can be repeated if necessary.



MINIMALLY INVASIVE TREATMENT

- May be combined with other treatment options.
- May improve quality of life by reducing patient suffering.

FREQUENTLY ASKED QUESTIONS

Q. How long does the TA procedure take?

A. A typical procedure takes 2 to 4 hours. Many patients have the treatment on an outpatient basis and are discharged the same day. Some patients may need to stay in the hospital overnight for observation and pain management.

Q. What kind of follow up will there be after the procedure?

A. Your physician will follow up with you 24 hours after the procedure to assess how you are feeling and to schedule an office visit for the following week. Your physician may also perform CT scans 1, 3, or 6 months after the procedure.

Q. What type of wound care will be required?

A. The procedure is performed percutaneously (through the skin), so only a small bandage or adhesive strip will be required.

Q. Is it going to be painful?

A. The procedure will be performed under local or general anesthesia. After the procedure, you may experience some discomfort at the ablation site. This discomfort will subside over several days. Your physician will prescribe pain medication, if needed.



Q. What are the risks of an TA procedure?

A. While TA is a safe and effective method of treating tumors, as with any procedure, there are certain risks involved. Your physician will discuss any potential complications or side effects with you prior to the procedure.

Q. Is there a possibility that I may be treated more than once?

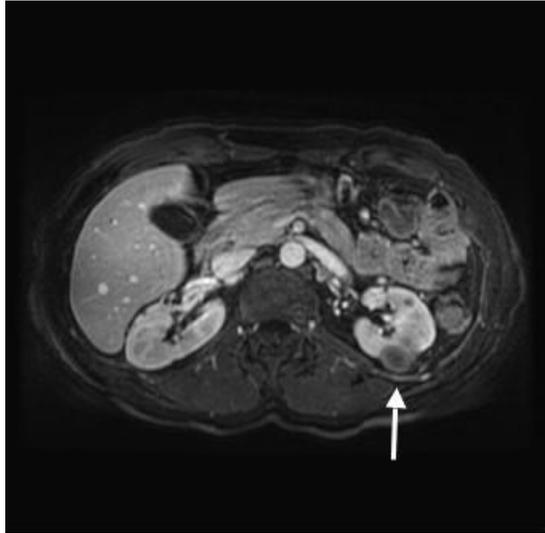
A. You may require more than one treatment session to destroy a tumor entirely. In some patients, additional tumors may appear and these may be treated as well.

Q. Is TA covered by insurance?

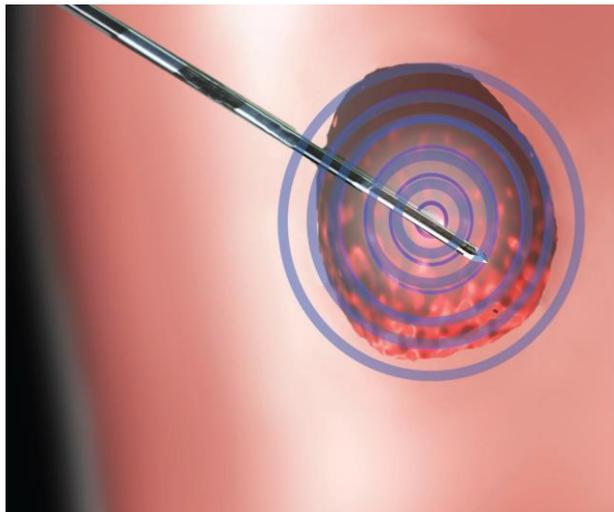
A. Coverage varies by insurer and procedure. Many private health insurers and Medicare have published coverage guidelines for Thermal Ablation of unresectable liver lesions. Thermal ablation of bone metastases to palliate pain is generally also covered. It is recommended that the patient and the provider seek prior authorization before the procedure is performed.



MINIMALLY INVASIVE TREATMENT



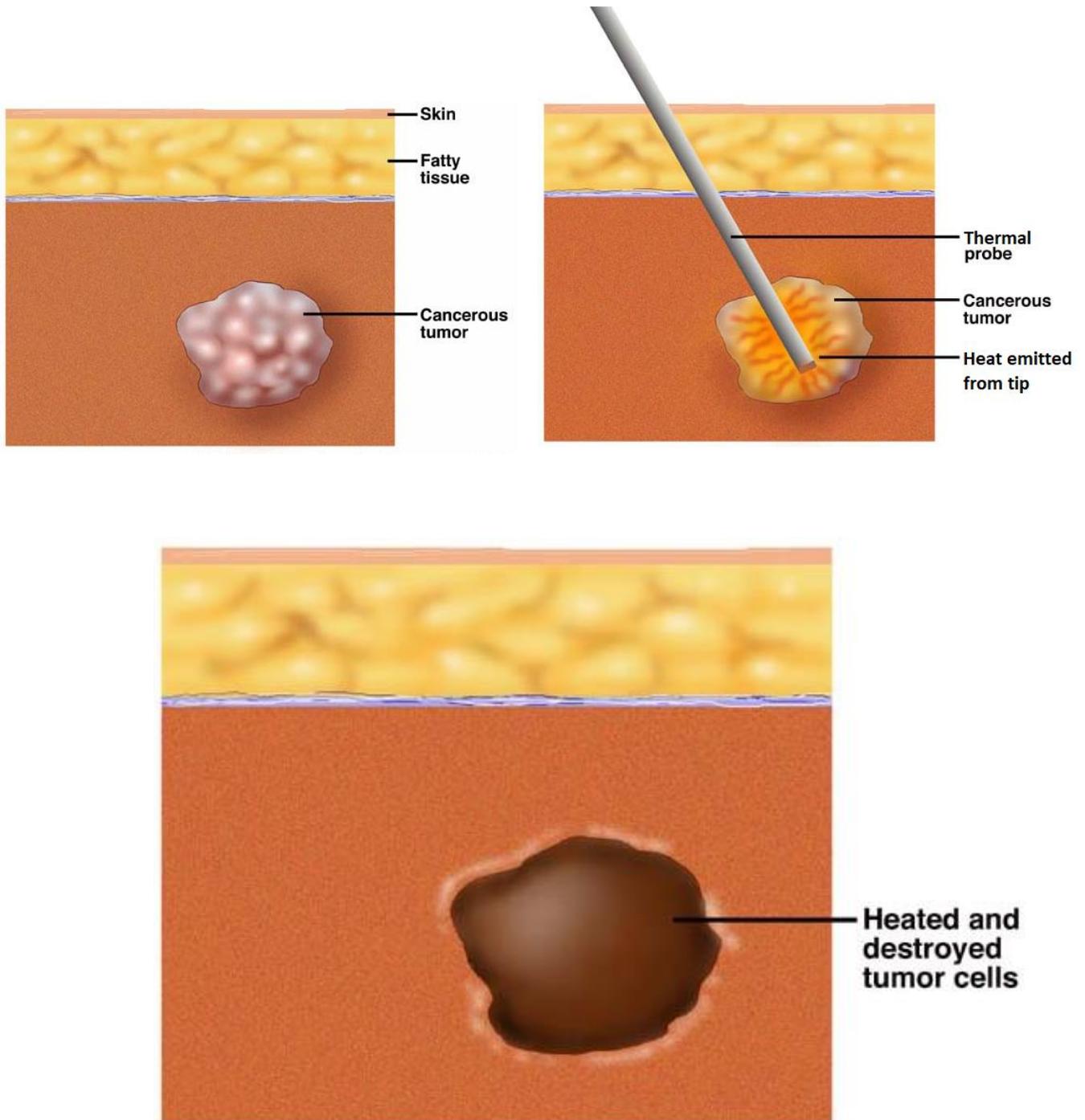
Performed by an Interventional Radiologist, TA is the preferred minimally invasive treatment for small or unreachable diseased tissue areas. It is particularly beneficial to patients who cannot withstand surgery due to other medical conditions. TA is a proven procedure that has fewer complications when compared to surgery.



A small needle is inserted through the skin directly into the diseased tissue, using imaging technologies such as CT or Ultrasound. Heat energy is delivered via the needle, destroying the diseased tissue from the

MINIMALLY INVASIVE TREATMENT

inside out. A unique needle design allows for maximum results in minimum treatment time.



MINIMALLY INVASIVE TREATMENT

Thermal ablation is a quick, precise, and effective localized treatment of diseased tissue. Thermal energy is used to rapidly heat and destroy diseased tissue, leaving surrounding healthy tissue unharmed. The destroyed tissue is not removed but gradually shrinks and is replaced by scar tissue.

The procedure is performed through the skin, so only a small bandage will be required. A typical procedure takes 2 to 4 hours.

This process may need to be repeated depending on the diseased tissue size and location. Additional diseased tissue areas may appear, and these can be treated as well.

Additional Facts About TA

- Is most effective when the kidney cancer is small in size (5cm or less)
- May be performed under moderate sedation or general anesthesia
- Is well tolerated-most patients can resume their normal routines the next day and may feel tired only for a few days
- Can be repeated if necessary
- May be combined with other treatment options

Efficacy

If the tumor is small, TA can shrink and likely kill the tumor. Although early results are encouraging, long-term follow-up is necessary to determine the precise role of TA in treating small kidney cancers. Current ongoing studies will determine long-term survival.

Because it is a local treatment that does not harm healthy tissue, the treatment can be repeated as often as needed. It is a very safe procedure, with low complication rates, and it has become more widely available over the last couple of years. The FDA has approved TA for use in soft tissue tumors, of which renal cell carcinoma is one.



MINIMALLY INVASIVE TREATMENT



Patient Information: What to Expect

TA (Thermal Ablation) is a minimally invasive treatment, so it is less taxing on the body than surgery. In many cases, it can be performed on an outpatient basis. You may be able to leave the hospital the same day and should be able to resume normal activities the day after treatment.

Preparing for TA

- You and your doctor will discuss whether you should undergo general or local anesthetic.
- Don't eat solid food for eight hours before the procedure.
- You may continue to drink clear, non-alcoholic fluids up until four hours before the procedure. You may take medications with sips of water up until 2 hours before the procedure.
- Tell your doctor if you are taking aspirin or any blood thinners, such as Plavix or Coumadin.
- Blood will be drawn for standard tests.

During the Procedure

- Your vital signs will be monitored.
- An IV line will be inserted to deliver fluid, medication, and anesthetic.
- If you are undergoing a local anesthetic, a numbing agent will be injected into the site of the procedure.
- The doctor will use ultrasound, CT, or MRI to locate the tumor.
- Using the image generated, the doctor will guide the needle electrode into the tumor. This may cause some discomfort.
- You'll be asked to stay as still as possible as the generator produces heat at the tip of the needle electrode.
- Depending on the size of the tumor, the needle electrode may be repositioned and the process repeated.
- The treatment process will take between 10 and 60 minutes.

After the Procedure

- The needle will be withdrawn from the site.
- A small bandage will cover the insertion site.
- You'll typically be placed on bed rest for at least two hours.
- The dead tumor will not be removed—it will naturally shrink and be replaced by scar tissue over time.



MINIMALLY INVASIVE TREATMENT

Side Effects

- There may be some pain, bleeding, or bruising at the site of the needle electrode insertion.
- You may experience a headache or some nausea.
- There is a slight risk of infection at the needle electrode insertion site. Contact your doctor if you experience a fever of more than 101.5 degrees.

Monitoring

After the tumor has had time to shrink, your doctor will use ultrasound, CT, MRI, or PET imaging to check the size of the tumor and see if there is any recurrence of cancerous growth at the margins of the site. Expect to undergo a series of follow-up sessions.

