

## There are several types of thermal ablation used to destroy diseased tissue:

- Cryoablation uses extremely cold temperatures to freeze diseased tissue
- Radiofrequency ablation uses heat generated by radiofrequency energy
- Microwave ablation uses heat generated by microwave energy
- Laser ablation uses heat from a laser beam
- Ultrasound ablation uses heat from focused ultrasound energy

## How does thermal ablation work?

The RFA and MWA systems use an electrical generator to deliver energy to diseased tissue through a needle electrode for RFA or an antenna for MWA. The physician inserts the electrode or antenna directly into diseased tissue guided by CT or ultrasound imaging. Once in place, energy is delivered through the tip of the electrode or antenna, which heats and destroys the tissue. This process may need to be repeated depending on the size, number and location of the tumor(s). The destroyed tissue is not removed, but gradually shrinks and is replaced by scar tissue.

You and your physician are the best people to make decisions about your health. This brochure is intended for informational purposes only and is not intended to advise you about which treatment option is best for you. Please speak with your healthcare professional about the treatment options, risks of those options and your particular medical condition. In all cases treatments recommended by your healthcare professional will be influenced by your condition and numerous other unique factors.

## Physician contact information

Doctor name:

Phone number:

Address:

City/State/Zip:

For more information,  
visit [www.mylivercanceroptions.com](http://www.mylivercanceroptions.com)



## TUMOR ABLATION



## AN ALTERNATIVE TREATMENT OPTION FOR LIVER CANCER

## What is tumor ablation?

Tumor ablation is often used as an alternative to surgery for certain cancers that may be found in the liver or other soft tissue. It may also be used for pain management caused by osteoid osteomas.

Tumor ablation uses heat, cold or a chemical applied directly to a tumor to achieve cell death in diseased tissue. Chemical ablation uses such agents as ethanol or acetic acid. Using heat or cold applications to create cell death in a tumor is called thermal ablation.



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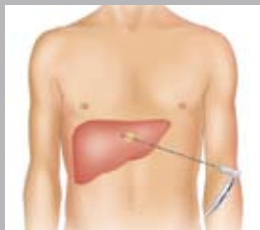
## Which option is best for me?

Your physician will speak to you about the differences between chemical and thermal ablation, the benefits of each and discuss which options, if any, are best suited to your situation. For example, radiofrequency ablation, also called RFA, has been shown to be an option for patients who are not surgical candidates. RFA may also be used to ablate a tumor that cannot be surgically removed. Your surgeon or radiologist must review your medical history to explore the possibility of ablation as an option.

Microwave ablation, or MWA, may be effective when used to treat tumors near critical structures, such as arteries or veins.<sup>1</sup>

In some cases, radiofrequency ablation has been shown to be more effective when combined with other cancer therapies, such as chemoembolization or chemotherapy, than individual therapies alone.<sup>2, 3, 4, 5</sup>

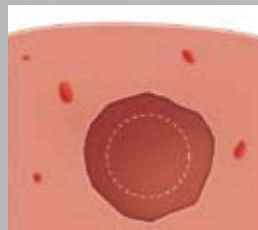
Additional studies have shown that ablation may help protect existing liver function in patients awaiting transplant.<sup>6, 7</sup>



*Antennas or electrodes are inserted directly into the tumor in the liver.*



*Liver lesion with antenna inserted: With the antennas or electrodes in place, the physician will ablate the tumor using microwave or radiofrequency energy.*



*Post-ablation lesion: The ablated tumor will remain in the organ where it will shrink over time. Your physician will monitor the ablation zone.*

## Commonly Asked Questions

*Which conditions do physicians treat with thermal ablation?*

Radiofrequency ablation devices are currently cleared for use by the FDA to ablate tumors in the liver and for ablating osteoid osteomas. Microwave ablation devices are cleared by the FDA to ablate soft tissue and liver tumors.

*Is thermal ablation suited to every liver cancer patient?*

Thermal ablation is not ideal for every person. Your physician must evaluate your case and decide if thermal ablation is appropriate.

*Are there risks associated with RFA and MWA procedures?*

Any medical procedure involves risk. Speak with your physician prior to the procedure about your concerns.

*Is thermal ablation covered by insurance?*

Thermal ablation is approved and covered by Medicare for payment and is assigned a payer code by the American Medical Association for payment by all other insurance plans. The procedure may be less expensive than surgical procedures, but it is advised that the patient and the physician's office have the procedure approved prior to the procedure.

*Is RFA or MWA painful?*

Every patient experiences pain differently. Your doctor will determine if you receive local or general anesthesia to manage any pain during the procedure. Speak with your physician prior to the procedure to discuss potential complications and pain management during or after the procedure.

*What should I expect after an RFA or MWA procedure?*

RFA and MWA can be performed in an interventional radiology suite with a minimally invasive procedure or during an open or laparoscopic surgery. The recovery and pain experienced varies depending on the type of procedure. Only your physician can assess your post-procedure care.

### References

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