

Patient Guide

THYROID RADIOFREQUENCY ABLATION

A Leading Edge, Non-Surgical Treatment of Thyroid Nodules.

BEFORE AND AFTER THE TREATMENT





BEFORE



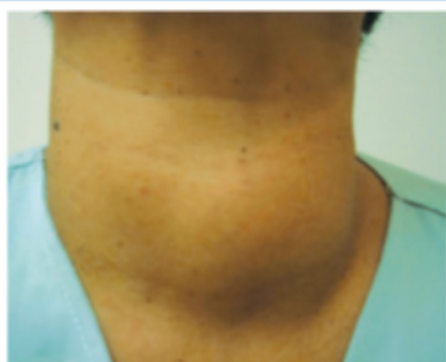
AFTER
2 Months



BEFORE



AFTER
6 Months



BEFORE



AFTER
6 Months



What is Radiofrequency Ablation?

Radiofrequency ablation is a medical procedure where dysfunctional tissue is being ablated using heat generated from alternating current, passed from the generator to the tissue via an electrode. Performed under local anesthesia, radiofrequency ablation is relatively painless and does not require general anesthesia. Doctors use guided ultrasound to insert probe into the thyroid nodule. Through selective heating of the probe tip, the nodule is cauterized. The cauterized tissue is then broken down by the body over the course of months.

Advantages of Radiofrequency Ablation of Thyroid Nodules

Compared with surgery, the primary advantages of radiofrequency ablation are:

- Increased likelihood of preservation of thyroid function.
- The potential of fewer complications.
- Generally shorter recovery time with a quick return to normal activities.

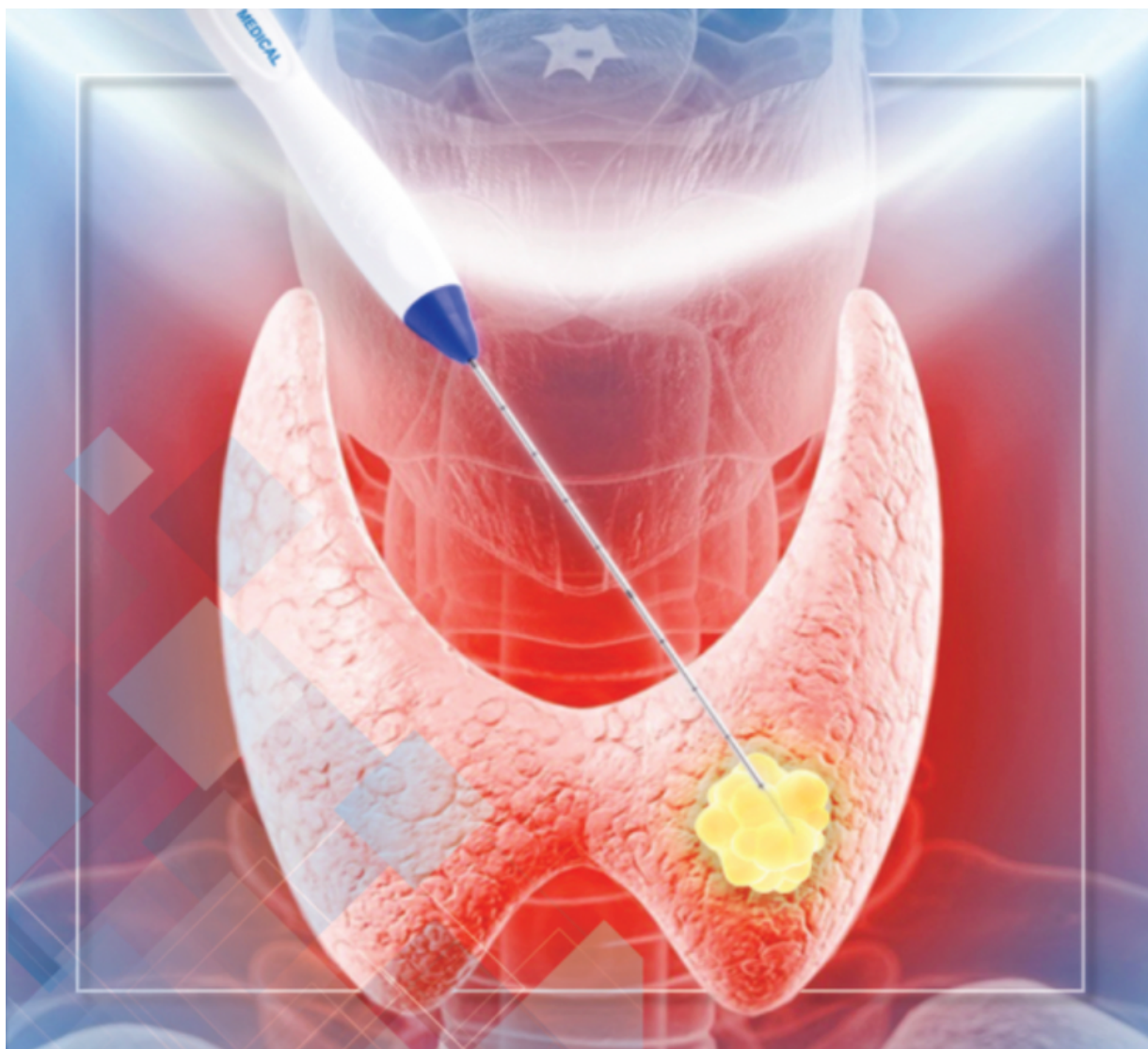


The entire procedure takes between fifteen minutes to one hour. Because it is minimally invasive and does not require general anesthesia, you avoid the external scarring of traditional thyroid surgery, and the associated risks of anesthesia. Radiofrequency ablation may also minimize the risk of permanent damage to the vocal cord nerve or to the parathyroid glands.

One of the most meaningful long-term advantages is that you may not need to take lifelong thyroid medication. The treatment preserves healthy thyroid tissue, which allows the thyroid to continue functioning normally — no ongoing medication management, with the difficulties of achieving the correct thyroid hormone dosage.

Radiofrequency ablation is highly effective for benign thyroid nodules. Depending on the type (solid vs. fluid filled vs. a combination of the two), nodules shrink anywhere between 60-90% after one year, with approximately 80% on average.





How long does the procedure last?

While the procedure itself takes less than an hour, the entire process may take 2-3 hours. Pre-procedural care and post procedural monitoring takes an additional hour. When the procedure is complete, a small bandage will be placed on the treatment site and the neck may be cooled with ice packs.

Is Radiofrequency Ablation Painful?

The procedure is so gentle that most people have little to no discomfort. This is because the thyroid nodule itself is not sensitive to pain. Other than the initial injection of numbing medication, the only remaining sensation is generally pressure. Intermittent sensations of discomfort thereafter can be treated with additional doses of pain medication or adjustment of the probe tip.

Radiofrequency ablation does not cause any scarring to the external neck. In many cases, one puncture of the skin is sufficient to treat the entire thyroid gland.

What to Expect After the Procedure

After monitoring for a short period of time, you will be discharged. Please check with your doctor before you drive, as you may need someone to drive you to and from the procedure. You should be able to return to most of your regular daily activities almost immediately.

Your doctor may provide temporary limitations, however. These may include avoiding the following:

- **Lifting heavy objects (over 10 pounds.)**
- **Strenuous physical activities.**
- **Any activities that cause pain or discomfort in your neck (such as massage or acupuncture).**

In general, radiofrequency ablation will not affect your energy or strength. If you feel any abrupt changes after treatment, you should notify your physician immediately.



What Happens to the Nodules After Treatment?

In the weeks following the procedure, the cells of the treated thyroid nodule are removed by the body's immune system. Most patients notice the nodule has already become smaller in just two to three weeks, with solid nodules taking longer than cystic nodules.

Part or all of targeted thyroid nodules may be permanently destroyed during the procedure. Immune cells of the body then break down the affected areas, which shrinks the nodules. The percent reduction depends on the original size and nature of the nodules, with around 40–60% after three months and about 60–90% after one year.

In the years after the procedure, all that remains in the treated area is scar tissue. While some of the nodule around this scar may remain, it is generally significantly smaller than the same nodule before treatment. The surrounding healthy thyroid gland remains unharmed and can continue to produce thyroid hormone.

Often, difficulty swallowing, feelings of pressure or tightness of the throat, or even the bulky appearance of the nodule is usually significantly decreased or no longer detectable.

Are There Any Side Effects or Complications?

In a multi-center study of 1459 patients organized by the Korean Society of Thyroid Radiology, the overall complication rate following radiofrequency ablation was 3.3%. The major complication rate was 1.4%.

While uncommon, complications can be:

- **Temporary voice changes, such as hoarseness.**
- **Slight bleeding — usually disappears on its own within one day, or at the most, up to three months.**
- **Wound infections**
- **In rare cases, vomiting, cough, or seared skin at the treatment site may occur.**
- **Patients with AFTN (“hot” thyroid nodules) have the possibility of hypothyroidism after the procedure.**

Although rare, a complication may require an inpatient hospital stay or follow-up treatment

Is There Any Follow-Up Care?

Following radiofrequency ablation, your physician may monitor the treated nodules with ultrasound scans or lab tests.

Is This Procedure Reimbursed By Insurance?

Although this procedure is FDA cleared for soft tissue, currently there is no insurance reimbursement. The out of pocket cost will be provided by your provider and/or institution.

However, as a patient you have the right to submit to insurance for reimbursement after the procedure has been completed. Your physician's office can help guide you in this process.

Leading Edge Option for Benign Thyroid Nodules

In the final analysis, radiofrequency ablation (RFA) is an exciting alternative for patients who experience problems from benign thyroid nodules— offering the potential for less pain, less downtime and less external scarring than with surgery and without the risks of RAI. It is a safe and validated procedure that is now available in the United States. With its long lasting effects, radiofrequency ablation is a breakthrough in treating the symptoms of thyroid nodules. Ultimately, your physician can help determine the most effective treatment option for you.



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