

## **Learning about Radiofrequency Ablation of Thyroid Nodules**

### **About Thyroid Radiofrequency Ablation:**

Thyroid nodules are very common. In fact, about half of the adult population has them! Occasionally, they may grow to a size that causes pressure or discomfort, or are obvious under the skin and draw attention. Sometimes they can be overactive and produce too much thyroid hormone. Traditionally, nodules like this are removed surgically or treated with radioactive iodine.

Radiofrequency ablation is a safe and effective alternative. During this procedure, the nodule tissue is selectively heated and denatured using an electrode that passes through the skin. The body then absorbs this tissue over the course of the next several weeks to months. This technique has the advantage of being able to preserve normal thyroid tissue, and significantly increase the chance of preserving overall thyroid function.

### **On the Day of the Procedure:**

This is an outpatient procedure that takes place in the clinic. The actual treatment time is usually between 15 and 60 minutes depending on the size of your nodule, but please be prepared for a total visit time of 2-3 hours. You will need someone to drive you to and from the procedure.

Be sure to have discussed any blood thinning medications with your physician ahead of time, as you may need to stop them a few days before the procedure. Also inform your physician if you have a pacemaker, implants, or might be pregnant. You will be asked to remove all items with metal – this means earrings, rings, any undergarments with wire or metal clasps, glasses, etc. If you have been prescribed medication for relaxation, please take this 30 minutes before your appointment time.

You will change into a surgical gown and we will attach two sticky grounding pads to your thighs. We will perform a brief ultrasound to confirm the target within your thyroid gland and plan the approach. We will then inject local anesthesia around the thyroid gland and subcutaneous tissues. Once the probe is introduced into the correct location and confirmed on the ultrasound, we will activate the device and start the ablation. You will feel some pressure and may hear some background noise and the occasional “pop.” These are all normal sounds and indicate that an appropriate response is taking place.

You will be able to talk, swallow, and breathe throughout the procedure. Most people have little to no pain during the ablation. Some patients describe mild discomfort in the ear, jaw, shoulder, or back. This is normal, and results from the cross innervation of sensory nerves around the thyroid gland and these other locations. If the discomfort is not tolerable or is increasing, let your physician know and adjustments can be made to reduce this.

### **After Radiofrequency Ablation:**

After being monitored in the clinic for a short period of time, you will be able to return home. Please ensure you have a family member or friend drive you home. You should be able to return to most of your regular daily activities almost immediately and can resume a regular diet.

You may go to work the day after the procedure. Please wait 72 hours before resuming any strenuous exercise.

Immediately after the procedure, you will feel like your neck is stiff or tight. In the following days, the nodule and surrounding tissues may become a bit swollen, and you may notice the nodule feels firm or even a little larger than usual. Continue to apply ice for 20 minutes at a time 2-3 times per day during this time to reduce the swelling. Soon, the cells of the treated thyroid nodule are removed by the body's immune system. The amount of reduction depends on the original size and nature of the nodules, with around 30-50% after three months and about 50-80% after one year. The surrounding healthy thyroid gland remains unharmed and can continue to produce thyroid hormone.

Your TSH and T4 will need to be checked 6 months after the procedure, and your physician team will order this for you.

### **What to Watch For:**

1. Mild to moderate swelling of the neck and some discomfort may occur in the initial 2-4 days after the procedure. This can be reduced with application of a cold ice pack around the neck site.
2. Voice changes such as hoarseness or a raspy voice may occur after the procedure. This is usually temporary and may resolve within a few days to months.
3. Slight bruising may occur - this usually subsides within 7-10 days. If the bruising is extensive, is worsening, or is accompanied by difficulty breathing or swallowing, please contact us immediately.
4. Please seek medical attention if you experience fever over 100.4F, increased redness, increased pain, or discharge at the neck site. This may be a sign of infection.
5. Nodule rupture is a rare complication that can occur in the weeks following RFA, after you have healed from the initial procedure. This typically presents with sudden onset of swelling and pain over the nodule location, and can sometimes be accompanied by fever. Please contact us if you experience any of these symptoms.