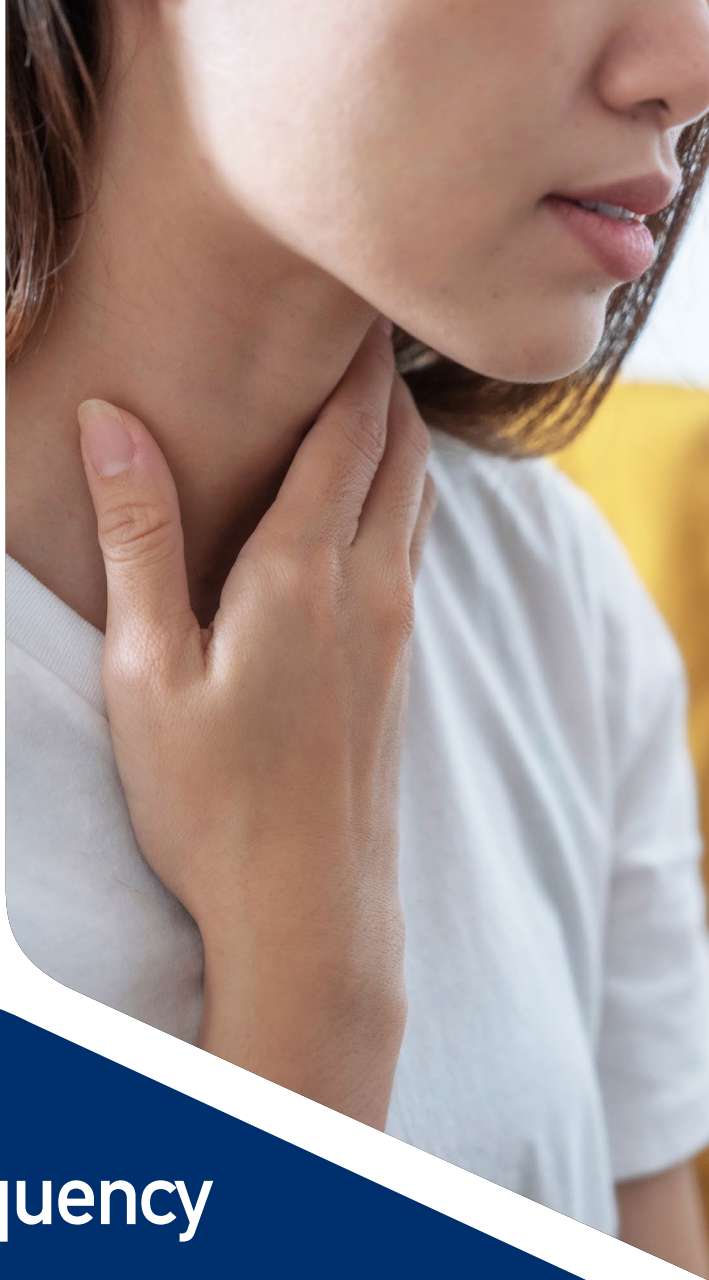




National University
Hospital



Radiofrequency Ablation



What is Radiofrequency Ablation (RFA)?

Radiofrequency ablation (RFA) of thyroid nodule is a non-surgical treatment to remove benign thyroid nodules.

Thyroid nodules are abnormal lumps (growths) within the thyroid gland. They are common and are more frequently seen in women. These nodules can be solid, fluid-filled or a combination of both. Majority of thyroid nodules are benign (non-cancerous) but may be symptomatic. In some cases, these thyroid nodules can grow and cause problems such as breathing difficulties, swallowing issues, pain, or discomfort. Surgery is the most common employed treatment for management of these nodules.

How do RFA work?

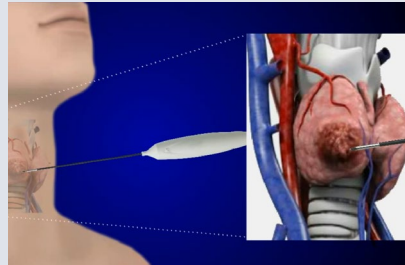
RFA shrinks the nodule by destroying the cells within it, alleviating symptoms such as pain, discomfort, and neck lumps. In most cases, thyroid function is unaffected by the procedure.

This non-surgical treatment is particularly suitable for patients with established benign thyroid nodules that might be symptomatic. Compared to an open surgery, patients who opt for RFA experience lesser downtime and shorter recovery time. Patients can return to work and resume their usual activities within a day of the procedure.



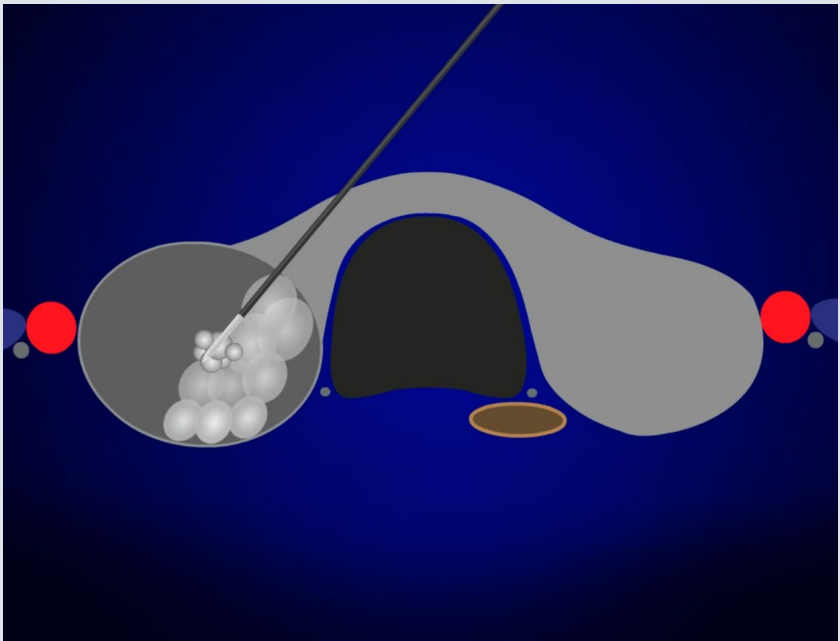
How is RFA of thyroid nodule carried out?

This treatment involves the placement of a small probe about the size of an injection needle into the thyroid nodule. Thereafter, the tip of the probe is activated, and this creates a radiofrequency wave that essentially heats up the nodule, thereby destroying the cells within the nodule.



This procedure may be performed under sedation, local or general anaesthesia. Local anaesthesia and sedation are preferred, to allow better monitoring of patients. The procedure lasts for 30-45 minutes depending on the size of nodule for ablation.

Local anaesthesia is administered in the neck to ensure there is minimal pain and discomfort during the procedure. Following this, cold fluid may be injected around the thyroid to prevent heat transmission to the surrounding structures. Thereafter, the RFA probe is inserted into the thyroid nodule under ultrasound guidance and the probe is activated to allow for thermal ablation of the nodule.



Treatment outcomes

Radiofrequency ablation (RFA) of thyroid nodule was first conceptualised in 2006. Since then, the overall results have shown great efficacy in the shrinkage of thyroid nodules. In a systemic review involving 1,737 patients with a total of 1,943 thyroid nodules treated with RFA – 85% of patients achieved a target volumetric reduction of at least 50%. Most patients achieved approximately 67% - 93.6% volumetric reduction. These patients were followed up for a minimum of 18 months demonstrating long-term efficacy in this technique.

Who is eligible for RFA treatment?

Presently, radiofrequency ablation is largely used in patients with benign thyroid nodules. This is established by performing two biopsies. Patients with predominantly solid nodules who are symptomatic would benefit most from RFA.



What to expect after the procedure?

Most patients go home on the day of the procedure and are able to resume their usual daily activities the day after. Some patients might experience some soreness or swelling over the ablated site. However, this would go away after about 72 hours.

Patients will be followed up via tele-medicine, one-week post-procedure. Thereafter, patients will be provided a three months face-to-face review. Should there be any symptoms or concerns after the procedure, an appointment will be arranged for patients to be seen for further evaluation.

What are the potential side effects?

As this procedure involves the use of heat to ablate the thyroid nodule, the risks of heat transmission to the surrounding structures are possible. This would include heat transmission to the nerve to the voice box, leading to hoarseness.

Other potential side effects include the risks of thermal injury to the surrounding blood vessels and the overlying skin that might result in bleeding and possible burns to the skin.

These side effects are generally uncommon (occurring less than 1% of the time) and is further prevented by administering cold fluid around the target area during the procedure.

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