



## Understanding Thyroid Nodules

A thyroid nodule is a solid or fluid-filled lump in the thyroid, the butterfly-shaped gland at the base of the neck. Approximately three million cases are reported each year.

Thyroid nodules are common and occur at all ages, but are more common as we get older.

### Diagnosis of thyroid nodules

Most thyroid nodules are slow-growing and don't cause symptoms. They are often found incidentally through other tests, such as an ultrasound, CAT scan, or MRI.

Occasionally, thyroid nodules can become large and be felt as a firm lump in the neck.

If a thyroid nodule is suspected, ultrasound can be used to identify a discrete lump and its characteristics.

### Symptoms of thyroid nodules

If you experience any of the following symptoms, you should seek evaluation by a physician.

- A nodule that can be felt as a hard, immovable lump in the neck
- Persistent voice hoarseness
- Difficulty passing food
- Difficulty breathing

If thyroid nodules are so large that they cause symptoms, such as difficulty swallowing or breathing, surgical removal may be recommended.

## Causes of thyroid nodules

Several conditions can increase the risk of a thyroid nodule:

- **Iodine deficiency:** Lack of iodine in your diet can cause thyroid nodules. However, iodine deficiency is rare in the US.
- **Radiation exposure:** Those who have experienced radiation exposure to the neck, particularly in childhood, are more likely to develop thyroid nodules.
- **Autoimmune disease:** A thyroid disorder known as Hashimoto's can cause inflammation and sometimes nodular enlargement.

## Diagnosing thyroid nodules

Most thyroid nodules are noncancerous. However, if there is any unusual swelling in the neck, or any of the above-mentioned symptoms, it's important to evaluate the possibility of [thyroid cancer](#).

This is determined through an ultrasound-guided needle biopsy, a non-surgical procedure that is well-tolerated and typically performed under local anesthetic.

According to the most up-to-date statistics:

- **Benign nodules:** 65 to 75 percent of thyroid nodules gathered through a needle biopsy are benign. These non-cancerous thyroid nodules are typically not treated. They can be monitored through follow-up visits at regular intervals.
- **Malignant nodules:** 5 to 10 percent of thyroid nodules are identified as malignant. This can sometimes be a sign of thyroid cancer. Treatment includes [surgical removal of the thyroid gland](#).
- **Indeterminate nodules:** 15 to 30 percent of nodules cannot be identified as benign or malignant. These "indeterminate" nodules are considered to have intermediate malignancy

risk.

Many of the nodules we find are surgically removed, so we can examine them for cancer. However, the vast majority are benign and pose no risk to the patient.

## **Innovative treatments on the horizon**

Physicians at BWH are exploring less invasive treatments for thyroid nodules.

There are new methods, such as injecting benign nodules with ethanol or other agents to shrink or slow growth. For higher-risk nodules that require surgical removal, robotic surgery can be used to remove nodules without creating a scar.

- By Dustin G.

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