



A multinodular thyroid gland after it has been removed

SUMMARY

- MNG is a type of enlarged thyroid gland and often does not cause symptoms
- Large MNGs can cause changes in swallowing or breathing
- Rarely, a MNG can make too much thyroid hormone
- Surgery is the main treatment for MNGs which are causing symptoms, producing too much thyroid hormone or are worrisome for cancer
- After surgery thyroid replacement medication might be needed

ABOUT THE AAES

The **American Association of Endocrine Surgeons** (AAES) is dedicated to the advancement of the science and art of endocrine surgery. Our members have clinical expertise in and research interests that focus on endocrine surgical diseases. They are certified by either the American Board of Surgery of the United States, the Royal College of Surgeons of Canada or the equivalent governing boards in Mexico and South America.

The goal of the AAES is to discover and promote the best treatments for endocrine disease to help improve our patients' lives.

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MULTINODULAR GOITER

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Developed by Dr. Patricia Cronin and the American Association of Endocrine Surgeons Education Committee

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BACKGROUND

- The thyroid gland is normally a small, butterfly-shaped gland that sits in front of the windpipe in the lower neck
- It makes hormones that are important for energy regulation
- Sometimes, nodules (lumps) in your thyroid make it grow bigger. This is called a multinodular goiter (MNG)

SIGNS AND SYMPTOMS

- Many MNGs do not cause any symptoms
- Some patients may notice a lump in their neck, difficulty swallowing, or difficulty breathing when lying down
- Some nodules may make excess hormone (toxic MNG), potentially causing sweating, racing heart or weight changes

DIAGNOSIS

- A doctor will ask questions about any symptoms you may have, and then order a blood test for thyroid stimulating hormone (TSH) to determine if the gland is working normally
- Thyroid ultrasound is the best test to look at MNGs and can tell the nodule number, size, and consistency
- A tiny needle may need to be inserted into some nodules in order to perform a biopsy and test for possible cancer, which is rare
- A CT scan of the neck can be used with large MNGs where the nodules might be growing down behind the breast bone
- A radioactive iodine uptake scan is used in patients with too much hormone production to see if one specific nodule is the cause



TREATMENT

- A person with MNG may need surgery if they are having symptoms or if the ultrasound and/or biopsy is concerning for thyroid cancer. Surgery can involve taking out half (thyroid lobectomy) or all of the thyroid gland (total thyroidectomy)
- A toxic multinodular goiter can be treated with surgery to remove the nodule(s) that are making too much hormone
- After total thyroidectomy, a person needs to take thyroid hormone medication daily for the rest of their life. Regular blood tests (TSH) are needed to make sure that the dose is correct
- After thyroid lobectomy, the remaining thyroid may work normally and medication is not needed. However, a blood test is needed 6-8 weeks after surgery to be able to tell
- Routine ultrasounds may be used to see if the MNG is growing in patients who do not have surgery right away



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