

AFTER THE BIOPSY

- If benign then no further treatment may be necessary other than monitoring
- If suspicious for malignancy or malignant, surgical removal of either the lobe containing the nodule or the entire thyroid gland is recommended
- If indeterminant then there are several options including surgery, molecular marker testing, or surveillance with possible repeat FNA later

SUMMARY

- Thyroid nodules are very common and most are benign
- Your doctor should evaluate any identified thyroid nodule to exclude malignancy
- Evaluation includes a thorough history, physical exam, a thyroid U/S, and a possible thyroid nodule biopsy.
- Management includes surveillance, molecular marker testing, and/or surgery

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.

To find an experienced surgeon, please visit the **AAES Surgeon Finder**:

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American Association of Endocrine Surgeons

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THYROID NODULES

To learn more, please visit the AAES Patient Education website:

www.collectedmed.com/aaespatienteducation

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Developed by Dr. Anthony Boganey and the American Association of Endocrine Surgeons Education Committee

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BACKGROUND

- The thyroid is a gland in the middle of the neck that helps to regulate the body's metabolism
- The thyroid is one of the most important endocrine organs and uses iodine to make thyroid hormone that effects heart rate, bone loss, and how blood sugar is used



SIGNS AND SYMPTOMS

- A thyroid nodule is an abnormal growth within the thyroid gland
- Nodules are quite common and the vast majority are not cancerous
- There is a 5 – 15% risk of thyroid cancer in those patients without risk factors.
- Most nodules are do not cause any symptoms

RISK FACTORS

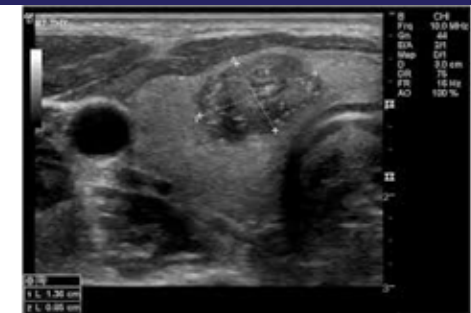
- The likelihood of having a thyroid nodule increases with increasing age
- Factors that increase the risk of a nodule being cancerous include:
 - A family history of thyroid cancer or thyroid cancer syndromes
 - Personal history of radiation to the head, neck, or upper chest
 - Age < 20 or > 70-years
 - Male gender
 - Nodules that are more rapidly increasing in size or have a hard consistency
 - Enlarged neck lymph nodes
 - Symptoms of persistent hoarseness

DIAGNOSIS

- A complete examination
- A thyroid ultrasound and labwork
- If your nodule is large enough and looks concerning on ultrasound, the next step is usually to do a needle biopsy

WHY DO A NEEDLE BIOPSY?

- A thyroid biopsy will help determine if your nodule is benign or needs further treatment
- A small sample of cells are aspirated into the needle and examined by an experienced thyroid cytologist.
- The results are put into categories based on the probability of the nodule being cancerous (Bethesda Categorization)
- The Bethesda criteria has six categories that range from “non-diagnostic”, Bethesda I and has a 1 – 4% risk of malignancy, to “Malignant/ Cancer”, which is Bethesda VI and has a 97 – 99% risk of malignancy



A thyroid U/S demonstrating a nodule in the right thyroid lobe.



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