Thyroid Nodule Evaluation

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson’s specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient’s care. This algorithm should not be used to treat pregnant women.

Note: Consider clinical trials as treatment options for eligible patients.

INITIAL EVALUATION

Thyroid nodule found on palpation or imaging

Check serum TSH and consider referral to Endocrine Center at MD Anderson

TSH less than the lower limit of normal in the assay utilized¹

Yes

No

ADDITIONAL EVALUATION

Perform thyroid uptake scan

Hot nodule?

Yes

No

Ultrasound neck

Ultrasound-guided FNA

TREATMENT

• Assess and treat for thyrotoxicosis as indicated
• Consider referral to Endocrine Center at MD Anderson (if not already done)

FNA as clinically indicated²,³ by ultrasound criteria⁴,⁵

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Ultrasound-guided FNA

No³

TSH = thyroid stimulating hormone
FNA = fine needle aspiration

¹ For people with a low TSH who are taking thyroid hormone supplementation (e.g., levothyroxine, desiccated thyroid extract, liothyronine), consider exogenous thyrotoxicosis before proceeding to perform a thyroid uptake and scan

² Detection of abnormal lymph nodes warrants FNA of the lymph node

³ Reference the American College of Radiology Thyroid Imaging, Reporting and Data System (TI-RADS) for FNA criteria

⁴ Reference the American Thyroid Association (ATA) guidelines

⁵ Refer to ATA guidelines regarding drainage of a simple cyst for symptomatic or cosmetic reasons

Note:

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CLINICAL PATHOLOGIC FINDINGS

- Malignant/suspicious for malignancy
  - Consider referral to Endocrine Center at MD Anderson (if not already done)
  - Follow malignancy guidelines as clinically indicated

- Follicular/Hürthle cell neoplasm
  - Consider lobectomy
  - Consider repeat ultrasound-guided FNA with molecular testing
  - Consider observation with repeat ultrasound neck in 6-12 months

- Atypical cells of undetermined significance (ACUS)/folicular lesion
  - Observation with repeat ultrasound neck in 6-12 months
  - Consider repeat ultrasound-guided FNA with molecular testing
  - Lobectomy as clinically indicated

- Non-diagnostic
  - Repeat ultrasound with possible FNA within 3-6 months
  - Consider lobectomy

TREATMENT

Benign

- Risk factors present
  - Repeat ultrasound neck and TSH in 6-12 months
  - Stable
    - Yes: Repeat TSH and ultrasound neck in 12-18 months and then consider every 2-3 years if stable
    - No: Consider repeat ultrasound-guided FNA
  - Stable
    - Yes: Discharge to community provider
    - No: Consider repeat ultrasound-guided FNA

- Non-diagnostic
  - Repeat ultrasound neck and TSH in 12-36 months
  - Stable
    - Yes: Repeat TSH and ultrasound neck in 12-18 months and then consider every 2-3 years if stable
    - No: Consider repeat ultrasound-guided FNA
  - Stable
    - Yes: Discharge to community provider
    - No: Consider repeat ultrasound-guided FNA

Note: Consider clinical trials as treatment options for eligible patients.

1 Surgery can be extended to total thyroidectomy for bilateral disease or high risk, which includes family history of thyroid cancer, radiation exposure, unilateral nodule greater than or equal to 4 cm, especially in men, or patient’s preference

2 For patients who underwent lobectomy, thyroid function tests (TFT) should be repeated at 4 to 8 weeks, 6 months and 12 months post-op to rule out hypothyroidism

3 If repeat FNA is nondiagnostic, consider surgery or follow-up as benign pathology with risk factors

4 Risk factors:
   - Family history of thyroid cancer
   - Childhood cancer survivor
   - History of radiation exposure to the head/neck
   - Familial adenomatous polyposis
   - Suspicious ultrasound features
   - Reference the American Thyroid Association (ATA) guidelines

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SUGGESTED READINGS


This practice consensus statement is based on majority opinion of the Endocrine Center Faculty workgroup at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

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