Thyroid Nodule Evaluation

This practice algorithm has been specifically developed for MD Anderson using a multidisciplinary approach and taking into consideration circumstances particular to MD Anderson, including the following: MD Anderson’s specific patient population; MD Anderson’s services and structure; and MD Anderson’s clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers.

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 low?

Yes → Perform thyroid uptake scan

Hot nodule?

Yes → Assess and treat for thyrotoxicosis as indicated

Consider referral to Endocrine Center at MD Anderson

No → Neck ultrasound

FNA clinically indicated2 by ultrasound criteria?

Yes → Ultrasound-guided FNA

See findings on Page 2

No → See Benign pathway on Page 2

No → FNA clinically indicated1 by ultrasound criteria?

Yes → Assess and treat for thyrotoxicosis as indicated

Consider referral to Endocrine Center at MD Anderson

No → Neck ultrasound

TSH = thyroid stimulating hormone

FNA = fine needle aspiration

1 Detection of abnormal lymph nodes should lead to FNA of the lymph node as well.

2 Reference the American Thyroid Association (ATA) guidelines
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.

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.

Cytopathological findings on FNA

- **Malignant/Suspicious for malignancy**
  - Consider referral to Endocrine Center at MD Anderson
  - Follow malignancy guidelines as clinically indicated

- **Follicular/Hurthle Cell Neoplasm**
  - Consider lobectomy
  - Consider repeat FNA for molecular testing
  - Consider observation with repeat ultrasound in 6-12 months

- **Atypical Cells of Undermined Significance (ACUS)/Follicular lesion**
  - Observation with repeat ultrasound in 6-12 months
  - Consider repeat FNA
  - Lobectomy if worrisome feature

- **Non Diagnostic**
  - Repeat ultrasound guided FNA within 3-6 months
  - Consider lobectomy

**CLINICAL PATHOLOGIC FINDINGS**

- **Benign**
  - Risk factors present?
    - Yes: Repeat ultrasound and TSH in 6-12 months
    - Stable?
      - Yes: Repeat TSH and ultrasound in 12-18 months and then consider every 2-3 years if stable
      - No: Consider repeat FNA
    - No: Repeat ultrasound and TSH in 12-36 months

  - No: Consider repeat FNA

- **Atypical**
  - Repeat FNA
  - Observation with repeat ultrasound or TSH in 6-12 months

**TREATMENT**

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
  - History of radiation exposure to the head/neck
  - Suspicious ultrasound features
  - Childhood cancer survivor
  - Familial adenomatous polyposis
  - Cowden syndrome

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SUGGESTED READINGS


Thyroid Nodule Evaluation

This practice consensus algorithm is based on majority expert opinion of the Endocrine Center Faculty at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following endocrinologists, pathologists, surgical oncologists, radiologists, and nuclear medicine physicians.

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DEVELOPMENT CREDITS

This practice algorithm has been specifically developed for MD Anderson using a multidisciplinary approach and taking into consideration circumstances particular to MD Anderson, including the following: MD Anderson’s specific patient population; MD Anderson’s services and structure; and MD Anderson’s clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers.

Department of Clinical Effectiveness V3
Approved by the Executive Committee of the Medical Staff on 03/28/2017