

FIVE THINGS TO KNOW ABOUT ...

Thyroid nodules

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The appropriate evaluation for a thyroid nodule is measurement of thyroid-stimulating hormone (TSH) and neck ultrasonography

The most recent guideline from the American Thyroid Association recommend serum TSH measurement and neck ultrasonography in all patients with a thyroid nodule.¹ A suppressed TSH level (< 0.3 mU/L) suggests an autonomously functioning nodule, and a thyroid scan with iodine-123 should be performed.¹ If the TSH level is normal or high (> 5 mU/L), fine-needle aspiration (FNA) biopsy should be considered.¹

Cytologic findings of FNA biopsy should be reported using the Bethesda System

Six diagnostic categories exist, with different risks of malignant disease: nondiagnostic or unsatisfactory (I, 1%–4%), benign (II, 0%–3%), atypia or follicular lesion of undetermined significance (III, 5%–15%), follicular neoplasm (IV, 15%–30%), suspicious for malignant disease (V, 60%–75%) and malignant (VI, 97%–99%).²

Resources for clinicians and patients

- Thyroid Foundation of Canada: www.thyroid.ca
- Thyroid Cancer Canada: www.thyroidcancer.ca
- American Thyroid Association: www.thyroid.org
- Thyroid Cancer Care Collaborative tool to record and monitor individual patient records: www.thyroidccc.org

For Bethesda III nodules, either repeat FNA biopsy or molecular testing should be performed before referring patient for diagnostic surgery

Repeat FNA biopsy yields a more definitive cytologic diagnosis in up to 90% of cases based on high-quality studies, but it must be performed at least 3 months later to avoid a false-positive result due to reactive or reparative changes.¹ In Bethesda III nodules, a positive result of molecular testing for a panel of mutations was reported to confer an 88% risk of cancer based on high-quality prospective data.³

References

1. Haugen BR, Alexander EK, Bible KC, et al. 2015 American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer: the American Thyroid Association Guidelines Task Force on Thyroid Nodules and Differentiated Thyroid Cancer. *Thyroid* 2016;26:1-133.
2. Cibas ES, Ali SZ. The Bethesda System for reporting thyroid cytopathology. *Thyroid* 2009;19:1159-65.
3. Nikiforov YE, Ohori NP, Hodak SP, et al. Impact of mutational testing on the diagnosis and management of patients with cytologically indeterminate thyroid nodules: a prospective analysis of 1056 FNA samples. *J Clin Endocrinol Metab* 2011;96:3390-7.

Only noncystic nodules greater than 1–2 cm should be biopsied

Although nodules are present in 19%–68% of individuals, most do not require biopsy.¹ Fine-needle aspiration (FNA) biopsy is recommended for nodules with features on ultrasonography that indicate higher risk of malignant disease (Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.160300/-/DC1).¹

Follow-up of benign nodules should be determined by risk stratification based on ultrasound pattern

The recommendations for follow-up of benign nodules are listed in Appendix 1. After 2 benign cytologic results, ultrasound surveillance is no longer indicated.¹ However, growth or development of symptoms may be indicators for surgical treatment.

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