



WORKUP OF THYROID NODULES

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3/28/17

Thyroid nodules

- A thyroid nodule is a discrete lesion within the thyroid gland that is radiologically distinct from the surrounding thyroid parenchyma.
- Nonpalpable nodules have the same risk of malignancy as do sonographically confirmed palpable nodules of the same size.
- Generally, only nodules >1 cm should be evaluated, since they have a greater potential to be clinically significant cancers.
- Occasionally, there may be nodules <1 cm that require further evaluation because of clinical symptoms or associated lymphadenopathy.
- In general, the guiding clinical strategy acknowledges that most thyroid nodules are low risk, and many thyroid cancers pose minimal risk to human health and can be effectively treated.

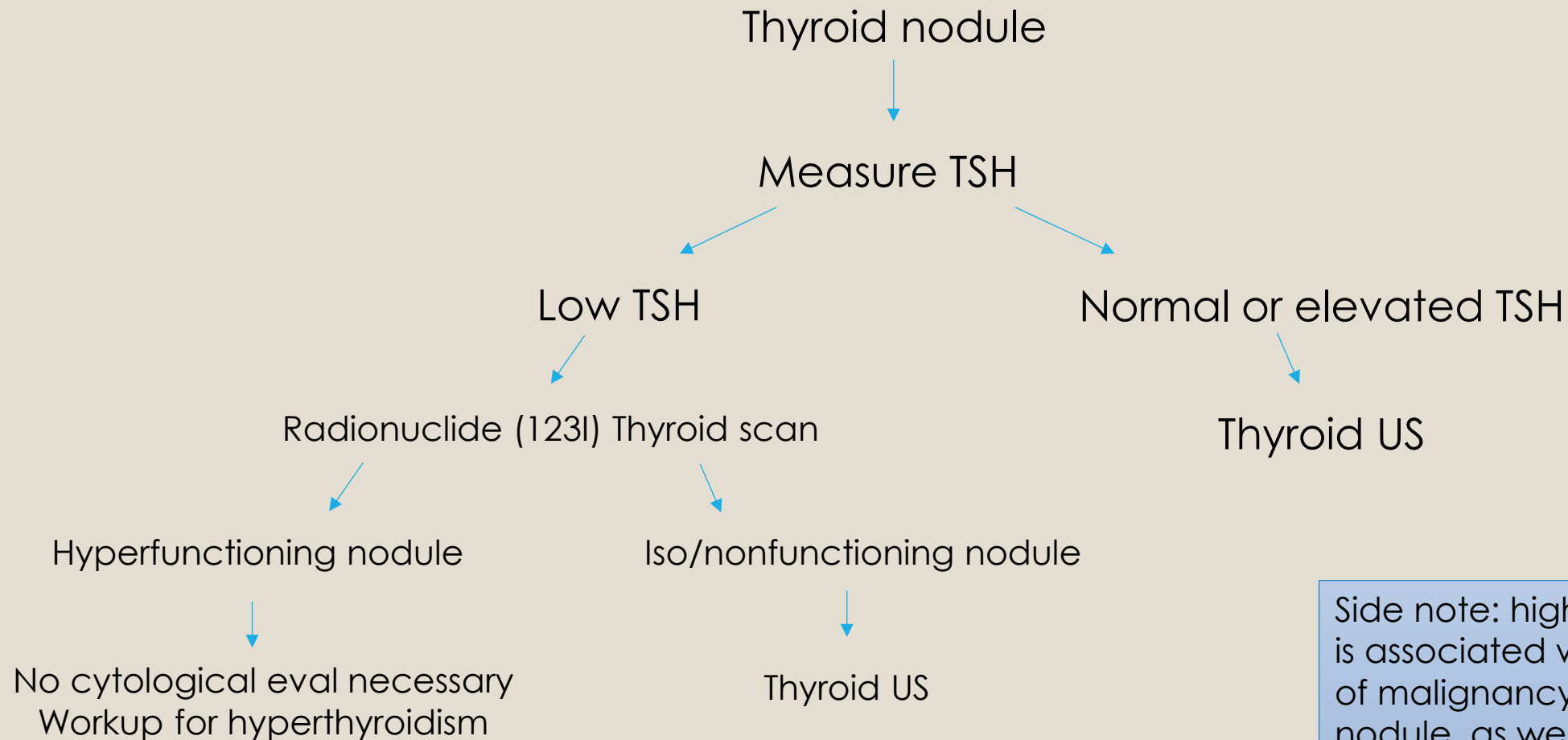
Pertinent Historical factors

- history of childhood head and neck radiation therapy
- total body radiation for bone marrow transplantation
- familial thyroid carcinoma in a first degree relative
- male sex
- extremes of age (<20 or >60)
- rapid nodule growth
- hoarseness

Concerning Physical Exam Features

- Vocal cord paralysis
- Cervical lymphadenopathy
- Fixation of nodule to surrounding tissues

Initial lab/imaging evaluation



Side note: higher serum TSH level is associated with increased risk of malignancy in a thyroid nodule, as well as more advanced stage thyroid cancer

ATA nodule sonographic patterns and risk of malignancy

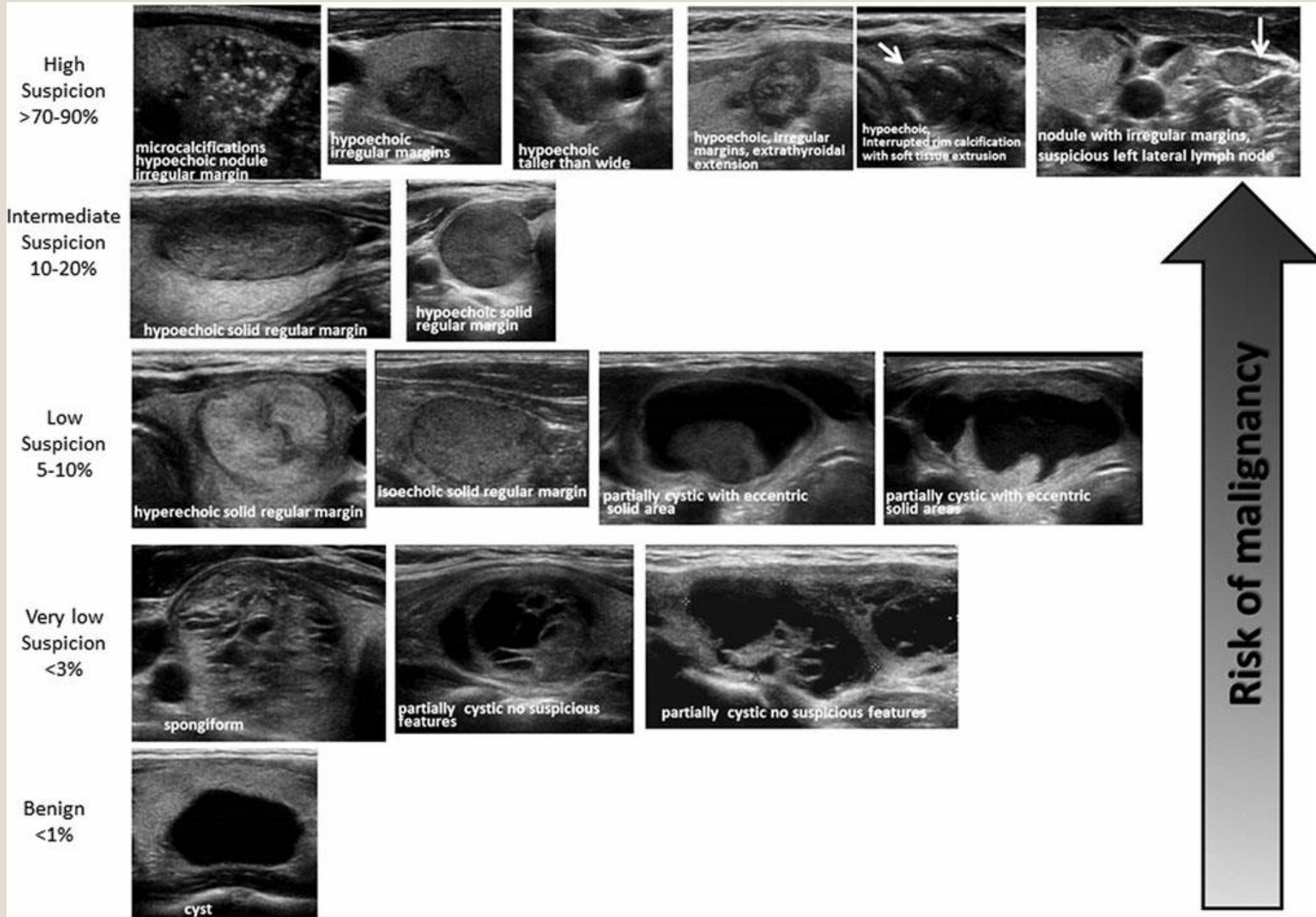


TABLE 6. SONOGRAPHIC PATTERNS, ESTIMATED RISK OF MALIGNANCY, AND FINE-NEEDLE ASPIRATION GUIDANCE FOR THYROID NODULES

<i>Sonographic pattern</i>	<i>US features</i>	<i>Estimated risk of malignancy, %</i>	<i>FNA size cutoff (largest dimension)</i>
High suspicion	Solid hypoechoic nodule or solid hypoechoic component of a partially cystic nodule with one or more of the following features: irregular margins (infiltrative, microlobulated), microcalcifications, taller than wide shape, rim calcifications with small extrusive soft tissue component, evidence of ETE	>70–90 ^a	Recommend FNA at ≥ 1 cm
Intermediate suspicion	Hypoechoic solid nodule with smooth margins without microcalcifications, ETE, or taller than wide shape	10–20	Recommend FNA at ≥ 1 cm
Low suspicion	Isoechoic or hyperechoic solid nodule, or partially cystic nodule with eccentric solid areas, without microcalcification, irregular margin or ETE, or taller than wide shape.	5–10	Recommend FNA at ≥ 1.5 cm
Very low suspicion	Spongiform or partially cystic nodules without any of the sonographic features described in low, intermediate, or high suspicion patterns	<3	Consider FNA at ≥ 2 cm Observation without FNA is also a reasonable option
Benign	Purely cystic nodules (no solid component)	<1	No biopsy ^b

US-guided FNA is recommended for cervical lymph nodes that are sonographically suspicious for thyroid cancer (see Table 7).

^aThe estimate is derived from high volume centers, the overall risk of malignancy may be lower given the interobserver variability in sonography.

^bAspiration of the cyst may be considered for symptomatic or cosmetic drainage.

ETE, extrathyroidal extension.

Nodules that do not meet FNA criteria

Should be monitored every:

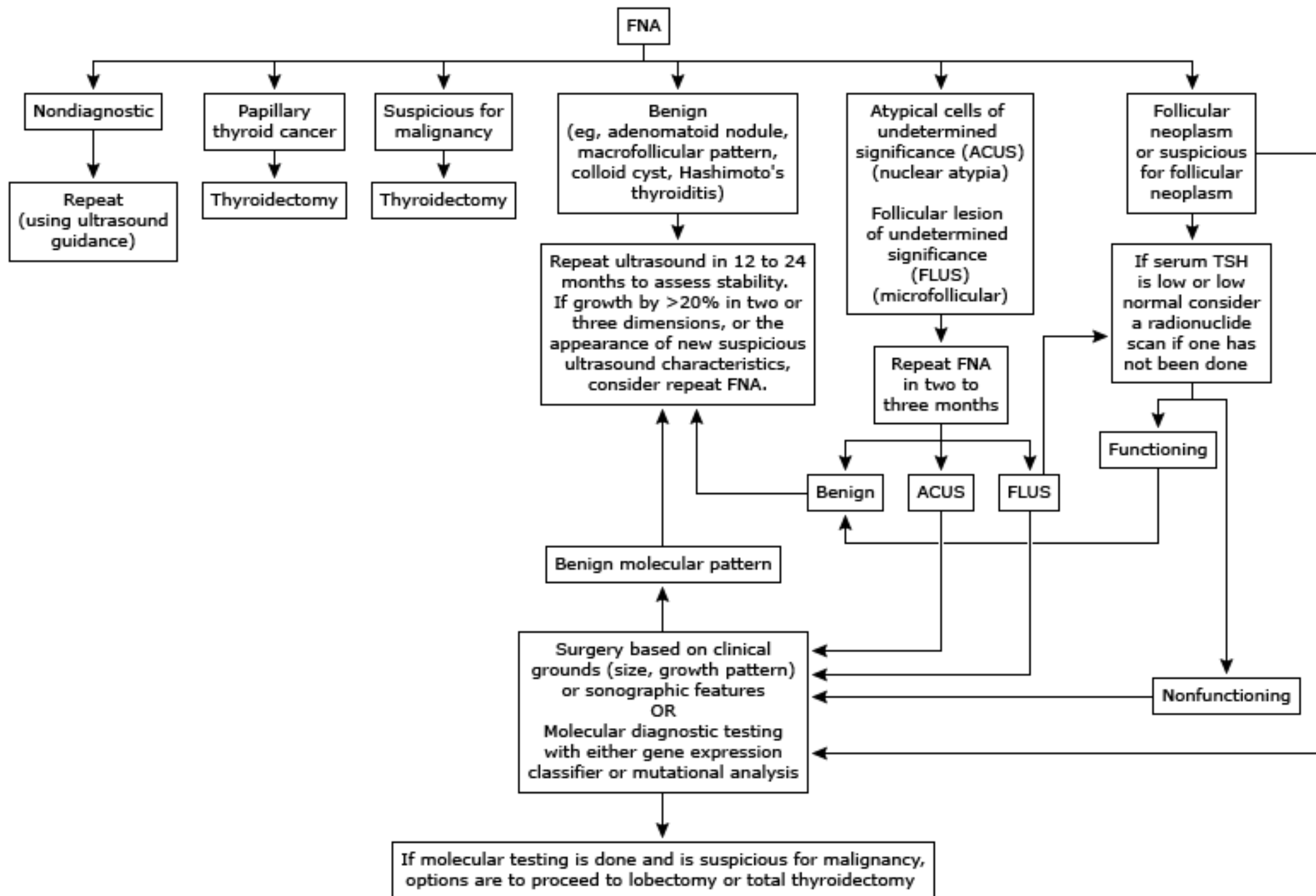
- 6-12 months for lesion <1 cm with suspicious features
- 12-24 months for nodules with low to intermediate suspicious features
- >24 months for very low risk nodules

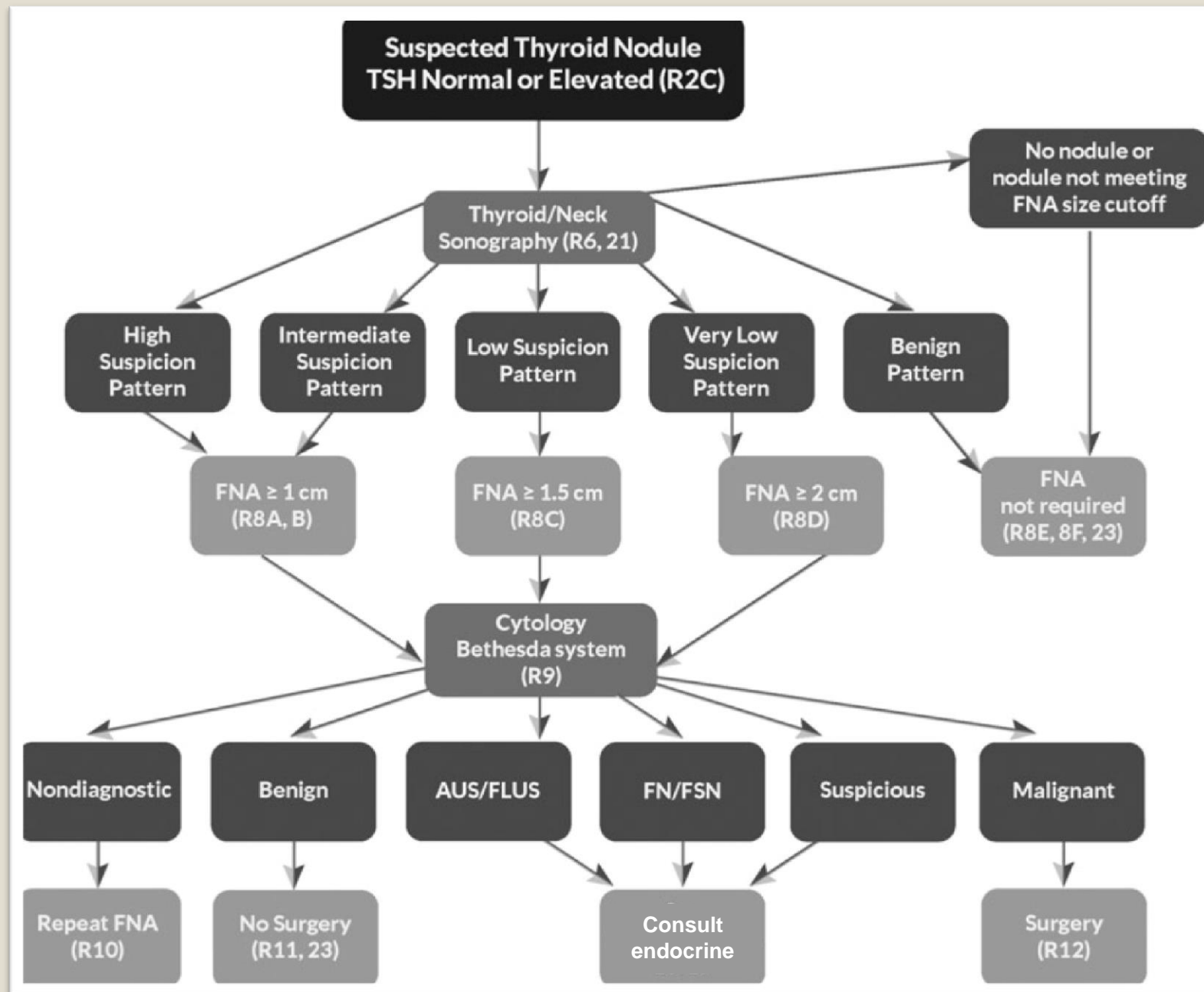
TABLE 8. THE BETHESDA SYSTEM FOR REPORTING THYROID CYTOPATHOLOGY: DIAGNOSTIC CATEGORIES AND RISK OF MALIGNANCY^a

<i>Diagnostic category</i>	<i>Estimated/predicted risk of malignancy by the Bethesda system, %^a</i>	<i>Actual risk of malignancy in nodules surgically excised, % median (range)^b</i>
Nondiagnostic or unsatisfactory	1–4	20 (9–32)
Benign	0–3	2.5 (1–10)
Atypia of undetermined significance or follicular lesion of undetermined significance	5–15	14 (6–48)
Follicular neoplasm or suspicious for a follicular neoplasm	15–30	25 (14–34)
Suspicious for malignancy	60–75	70 (53–97)
Malignant	97–99	99 (94–100)

^aAs reported in The Bethesda System by Cibas and Ali (1076).

^bBased on the meta-analysis of eight studies reported by Bongiovanni *et al.* (103). The risk was calculated based on the portion of nodules in each diagnostic category that underwent surgical excision and likely is not representative of the entire population, particularly of nondiagnostic and benign diagnostic categories.





References

- 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.
- Ross, DS. Diagnostic Approach To and Treatment of Thyroid Nodules. Uptodate. N.p., 22 Jan. 2016. Web. 25 Mar. 2017.
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