



AAVBC

AMERICAN ACADEMY OF VALUE BASED CARE

Thyroid Cancer

Quick Reference Guide

2026

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1 CLINICAL SNAPSHOT

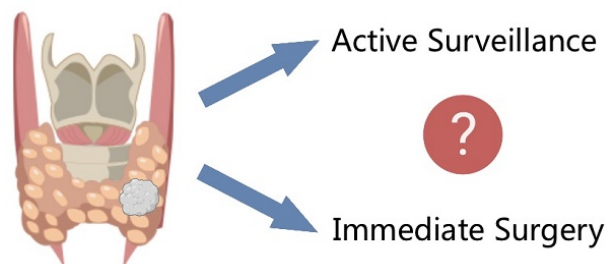
Definition: Thyroid cancer is a malignancy of the thyroid gland comprising **four principal histologic types**: papillary (PTC, ~**80%** of cases), follicular (FTC, ~**15%**), medullary (MTC, ~**3%**), and anaplastic (ATC, ~**2%**), each with distinct biological behavior, prognosis, and treatment approach.^{1,2} PTC and FTC together comprise **differentiated thyroid cancer (DTC)**, which is typically slow-growing and highly curable.^{1,3} ATC carries a median survival of **3-5 months** and requires immediate multidisciplinary evaluation.¹ The 2025 ATA guidelines introduced the **DATA framework** (Diagnosis, risk/benefit **A**ssessment, **T**reatment decisions, response **A**ssessment) to standardize individualized, shared decision-making; a paradigm **closely aligned with value-based care**.⁴

ICD-10 Codes:

Primary tumor = C73, malignant neoplasm of thyroid gland, covers **all histologic subtypes** (no separate ICD-10 codes for papillary, follicular, medullary, or anaplastic).⁵ Use **D44.0** for neoplasm of uncertain behavior pending definitive diagnosis; **E04.1** for confirmed benign thyroid nodule. Post-treatment codes: **E89.0** (postprocedural hypothyroidism), **E89.2** (postprocedural hypoparathyroidism). **Z85.850** (personal history of thyroid malignancy) applies **only after definitive treatment with no active disease**; patients under active surveillance retain C73.

Prevalence and Burden: The American Cancer Society estimates approximately **45,240** new thyroid cancer diagnoses in the United States in 2026 (**13,240** in men; **32,000** in women), with about **2,320** deaths (**1,100** men; **1,220** women).² Thyroid cancer is nearly **3 times more common in women than men**, and **40-50%** less common in Black patients than in any other racial or ethnic group.¹ The overall 5-year relative survival is **98.5%**, having risen from **92%** in the mid-1970s.⁶ The average age at diagnosis is **51 years**, younger than most other adult cancers, yet thyroid cancer carries **particular clinical significance for the Medicare population**: SEER-9 documents incidence of **13.15** per **100,000** in patients aged 60-79 versus 8.00 per **100,000** in those 20-39, with incidence-based mortality 10-fold higher in the older group (0.22 vs. 0.02 per **100,000** person-years).^{1,7} Age ≥ 55 is an independent predictor of structural relapse (**HR 1.78**, **95% CI 1.23-2.56**).⁸

The intensity of workup and intervention for thyroid nodules should be **balanced against the favorable outcomes obtained with active surveillance alone**.^{4,9,10} U.S. incidence increased approximately **250%** since 1990 while **mortality remained essentially unchanged**, driven primarily by detection of small papillary thyroid microcarcinomas (PTMC) that **may never cause symptoms or death**.^{1,7} SEER-based estimates (2000-2019) indicate that a substantial proportion of detected papillary thyroid cancers in both women and men may not require immediate intervention.¹¹ Autopsy studies confirm that approximately 10% of adults harbor **subclinical PTCs** and die without ever knowing.¹ **For the PCP in a value-based care setting**, the central task is **accurate risk stratification**: detecting clinically significant disease while avoiding unnecessary surgical harm in elderly patients with indolent tumors, recognizing that **active surveillance is an established management option** for appropriately selected low-risk cases.^{1,4,10}



Balancing Active Surveillance vs Immediate Surgery for Thyroid Microcarcinomas

HCC/RAF V28 Mapping

ICD-10 CODE(S) ¹²	HCC CATEGORY (V28) ¹²	RAF (CNA) ^{*13}	DOCUMENTATION REQUIREMENT
C73 Malignant neoplasm of thyroid gland	HCC 23 Prostate/Breast/ Other Cancers and Tumors	0.186	Active primary thyroid malignancy confirmed by pathology; specify histologic subtype (papillary, follicular, medullary, anaplastic) and AJCC 8th Edition stage; state " carcinoma ," not "nodule" or "mass"
C77.0 Secondary malignant neoplasm of lymph nodes of head/neck	HCC 18 Cancer Metastatic to Bone/ Other	2.341	Must be coded alongside C73 when cervical LN metastasis is confirmed; sequence after C73 ; document specific nodal station(s) involved and method of confirmation (pathology, imaging)
C78.0(1/2/0) Secondary malignant neoplasm of right/left/unspecified lung	HCC 17 Cancer Metastatic to Lung /Liver/Brain	4.209	Specify laterality : use C78.01 (right) or C78.02 (left) when known; C78.00 (unspecified) only if laterality is undetermined ; sequence after C73 ; document imaging confirmation
C79.31 Secondary malignant neoplasm of brain	HCC 17 Cancer Metastatic to Lung/Liver/ Brain	4.209	Rare in differentiated thyroid cancer ; document if present on imaging; sequence after C73 ; specify location and number of lesions when available
C79.51 Secondary malignant neoplasm of bone	HCC 18 Cancer Metastatic to Bone /Other	2.341	Document specific bone site(s) involved ; more common with follicular subtype ; sequence after C73 ; specify method of detection (bone scan, PET/CT, MRI) and whether pathologic fracture is present
Z85.850 Personal history of thyroid malignancy	No HCC	—	AVOID for active disease: Use ONLY after definitive treatment with no structural or biochemical disease; patients on active surveillance or with detectable thyroglobulin retain C73
D44.0 Neoplasm of uncertain behavior, thyroid	No HCC	—	AVOID premature C73 : Use for indeterminate FNA (Bethesda III–V) pending surgical pathology; convert to C73 only after confirmed malignancy

ICD-10 CODE(S) ¹²	HCC CATEGORY (V28) ¹²	RAF (CNA) ^{*13}	DOCUMENTATION REQUIREMENT
E89.0 Postprocedural hypothyroidism	No HCC	—	Distinguish from E03.x (non-surgical) ; document levothyroxine dose and TSH suppression target (cancer suppression vs simple replacement)
E89.2 Postprocedural hypoparathyroidism	No HCC	—	Specify transient vs permanent (>6 months post-op); document calcium and PTH levels and calcitriol use

ABBREVIATIONS: ICD-10 = International Classification of Diseases, 10th Revision; HCC = Hierarchical Condition Category; CMS-HCC V28 = Centers for Medicare & Medicaid Services Hierarchical Condition Category Model V28; RAF = Risk Adjustment Factor; CNA = Community Non-Dual Eligible, Aged segment; AJCC = American Joint Committee on Cancer; TSH = thyroid-stimulating hormone; FNA = fine-needle aspiration; PTH = parathyroid hormone; LN = lymph node

*RAF values represent the Community Non-Dual Eligible Aged (CNA) coefficient from the 2026 CMS-HCC model;¹³ values vary across patient populations based on eligibility and care setting

RAF values represent the Community Non-Dual Eligible Aged (CNA) coefficient from the 2026 CMS-HCC model; values vary across patient populations based on eligibility and care setting

Risk-Adjusted Care Resources per Patient/Year^{12,13}

Risk-adjusted care resource allocation — MA base rate (~\$10,402.34) × RAF coefficient

PRIMARY THYROID CANCER

\$1.9K

SECONDARY THYROID CANCER

\$24.4K

HCC 18 · RAF 2.341

METASTATIC BONE/ BRAIN/LUNG

~\$24.4K-43.8K

RAF values represent the Community Non-Dual Eligible Aged (CNA) coefficient from the 2026 CMS-HCC model; values vary across patient populations based on eligibility and care setting



AAVBC PERSPECTIVE

From the AAVBC's perspective, the primary care role in thyroid cancer centers on **matching intervention intensity to tumor biology** and ensuring that low-risk papillary disease is not overtreated while aggressive subtypes are promptly recognized. **The USPSTF recommends against** population-based screening for thyroid cancer in asymptomatic adults (D recommendation), but this **does not apply** to patients with clinical risk factors or incidentally detected nodules.¹⁴ The following **five-step sequence** anchors the PCP's approach:

- **PALPATE:** Routinely palpate the lower neck and thyroid area **during annual wellness visits**

- **IMAGE:** Order thyroid and neck ultrasound for **any** palpable, firm, growing, or concerning nodule
- **CLASSIFY:** Use **ACR TI-RADS** or **ATA** sonographic risk stratification from the ultrasound report to estimate malignancy risk^{4,15,16}
- **REFER:** Refer patients with suspicious nodules (**TI-RADS 4 to 5**, growing) to endocrinology for FNA consideration^{15,16}
- **RISK-STRATIFY:** Proactively identify **high-risk patients:** prior head and neck radiation, family history of medullary thyroid cancer, familial adenomatous polyposis, and MEN2 syndromes^{4,14}

For papillary thyroid microcarcinoma (PTMC, 1 cm or smaller) in elderly patients with comorbidities, **active surveillance is guideline-endorsed** as a primary management option, not surgery by default. The **NCCN Thyroid Carcinoma Guidelines** (v2.2026) define active surveillance criteria for low-risk PTMC and specify exclusions when aggressive histologic subtypes, extrathyroidal extension, regional or distant metastases, or tumors abutting the trachea are present.¹⁷ Japanese institutional data spanning over 30 years demonstrate **no thyroid carcinoma-related deaths among patients managed with active surveillance.**^{17,18} The **2025 ATA guidelines** reinforce **de-escalation of surveillance for low-risk patients** through the **DATA** framework (**D**iagnosis, **r**isk/benefit **A**ssessment, **T**reatment decisions, and **r**esponse **A**ssessment) and introduce the concept of complete remission.⁴ Accurate documentation of the patient's clinical complexity, including active malignancy status, metastatic sites, and ongoing TSH-suppression or surveillance protocols, supports the thyroglobulin monitoring and survivorship care these patients require over time.

2 RECOGNITION AND DIAGNOSIS

Medicare Screenings and Surveillance (Adult and Geriatric)

The USPSTF recommends against routine thyroid cancer screening in asymptomatic adults (Grade D).¹⁴ This recommendation **does not apply to patients with:** clinical findings, symptoms, or known risk factors that warrant evaluation. **Medicare Part B** covers the following tests and workup:

Diagnostic Tests Covered Under Medicare Part B (Older Adults, At-Risk Population)

TEST	FREQUENCY	CPT/ HCPCS	CLINICAL INDICATION
Thyroid/neck ultrasound: nodule evaluation	At symptom trigger; AS: q6 mo × 1–2 yr then annually	76536	Palpable nodule; firm or growing thyroid; cervical lymphadenopathy; incidental nodule on prior imaging ^{4,17,19}
FNA biopsy with ultrasound guidance	Per Bethesda algorithm	10005	Nodule meeting size/suspicion thresholds per ATA 2025 and ACR TI-RADS; ^{4,15} suspicious cervical lymph node
TSH assay	Baseline; post-thyroidectomy q6–12 mo until stable	84443	Initial nodule workup to determine; post-surgical TSH-suppression monitoring ^{4,17}
Thyroglobulin (Tg) + thyroglobulin antibody (TgAb)	Post-thyroidectomy q6–12 mo initially; annual once excellent response	84432/ 86800	Surveillance for recurrent/persistent DTC after total thyroidectomy; TgAb interferes with Tg = both required together ^{4,17}
Recombinant TSH (rhTSH/Thyrogen) injection	Per RAI/Tg testing protocol	J3240	Stimulated Tg testing and RAI scanning = preferred over thyroid hormone withdrawal in elderly ^{4,17}
Whole-body radioiodine imaging	Post-RAI per nuclear medicine protocol	78018	Post-RAI surveillance for residual disease and metastases ^{4,17}
Thyroid uptake measurement	Pre-RAI planning	78012	RAI therapy dose planning ¹⁷
CT neck with contrast	Once at staging; surveillance per oncology	70491	Staging for known or suspected metastatic disease; high-risk surveillance ¹⁷
Advance Care Planning (AWV)†	Annually + when goals change	99497/ 99498	Document directives, surrogate, code status = relevant when life expectancy shapes AS vs surgery decision in elderly low-risk patients ^{17,20,21}

ABBREVIATIONS: AS = active surveillance; FNA = fine-needle aspiration; CPT/HCPCS = Current Procedural Terminology/Healthcare Common Procedure Coding System; ATA = American Thyroid Association; ACR = American College of Radiology; TI-RADS = Thyroid Imaging Reporting and Data System; TSH = thyroid-stimulating hormone; Tg = thyroglobulin; TgAb = thyroglobulin antibody; DTC = differentiated thyroid cancer; rhTSH = recombinant human thyroid-stimulating hormone; RAI = radioactive iodine; CT = computed tomography; AWV = Annual Wellness Visit; ACP = advance care planning

† ACP is covered with no patient copay when performed during the AWV; 99497 covers the first 30 minutes, 99498 each additional 30 minutes



CLINICAL PEARL: TSH-FIRST STRATEGY REDUCES UNNECESSARY BIOPSIES

When a thyroid nodule is detected, **TSH measurement is the first test**, not ultrasound-guided biopsy. A **suppressed TSH** triggers a radionuclide scan; if the nodule is hyperfunctioning ("**hot**"), malignancy risk is negligible and **FNA is avoided entirely**.^{22,23} This **single lab test** can eliminate an invasive procedure, a pathology encounter, and patient anxiety for a meaningful subset of nodules. For nodules with normal or elevated TSH, ultrasound risk stratification (ACR TI-RADS or ATA pattern) then determines whether FNA is indicated based on size and morphology: most low-suspicion nodules are **observed rather than biopsied**. The sequence, TSH → radionuclide scan (if suppressed) → ultrasound risk stratification → FNA only when thresholds are met, ensures that invasive sampling is reserved for nodules with **genuine malignancy risk**, reducing low-yield biopsies, unnecessary specialist referrals, and downstream healthcare utilization.

Subtle Early Signs in Older Adults (>65)

SIGN/SYMPTOM ^{1,4,15,17}	CLINICAL SIGNIFICANCE ^{1,4,15,17}
Palpable thyroid nodule found on routine neck examination	Most thyroid cancers present asymptotically ; routine neck palpation during annual wellness visits is the most common entry point to diagnosis
Persistent hoarseness or voice change (no resolving URI)	May indicate recurrent laryngeal nerve invasion from a thyroid mass → ENT and ultrasound evaluation; not a benign aging finding
Progressive dysphagia or solid-food sticking sensation	Suggests substernal extension or local invasion → ultrasound and dedicated cross-sectional imaging warranted
Rapidly enlarging thyroid mass with stridor or dyspnea	Red flag for anaplastic thyroid cancer or hemorrhage into a nodule → immediate ED evaluation, NOT routine ultrasound
Suspicious cervical lymphadenopathy in nodule-positive patient	Suggests regional metastasis ; FNA of node with thyroglobulin washout within 1-2 weeks = do not defer to routine follow-up
New unilateral neck pain or referred ear pain in patient ≥55	Atypical presentation in older adults → combine with palpation and ultrasound rather than empiric analgesia
Unexplained calcitonin elevation or hypercalcemia	Calcitonin >300 pg/mL in suspected MTC suggests significant tumor burden → urgent staging and surgical planning
Incidental thyroid nodule on imaging ordered for other indication	Risk-stratify with ACR TI-RADS ; FNA only if size/suspicion criteria met; reflexive FNA of all nodules is low-value care

SIGN/SYMPTOM ^{1,4,15,17}	CLINICAL SIGNIFICANCE ^{1,4,15,17}
Incidental focal FDG uptake on PET imaging	Focal thyroid FDG carries up to 55% malignancy risk → expedited ultrasound and FNA warranted
ABBREVIATIONS: URI = upper respiratory infection; ENT = ear, nose, and throat; ED = emergency department; FNA = fine-needle aspiration; MTC = medullary thyroid cancer; ACR = American College of Radiology; TI-RADS = Thyroid Imaging Reporting and Data System; FDG = fluorodeoxyglucose; PET = positron emission tomography	

Geriatric Risk Factors

FACTOR	RISK SIGNAL	NOTES
Childhood ionizing radiation exposure	ERR 5.25 per Gy ¹	Strongest established risk factor ; ¹ dose-response relationship persists >30 years after exposure; document head/neck radiation history including childhood radiotherapy or environmental exposure
Female sex	3:1 incidence ratio (F:M) ¹	Strong demographic risk factor consistently observed worldwide ; male patients with alarm symptoms still warrant the same workup
Older age (60–79 y)	10x higher mortality vs 20–39 y	Older adults more often present with aggressive subtypes (FTC, MTC, ATC); ^{4,17} independent predictor of worse outcomes; AJCC 8th Edition uses age 55 as staging cutoff ¹⁹
Family history of thyroid cancer	OR 4.1	Document first-degree relative history ; risk highest among siblings (OR 7.4); ²⁴ supports screening rationale (Z80.8)
Family history of thyroid diseases	OR 1.76	Broader family history of any thyroid disease modestly elevates risk ²⁵
Prior benign thyroid disease (e.g., hyperthyroidism)	SIR 4.91 for nontoxic nodular goiter	Document complete thyroid history ; elevated SIRs persist >10 years after benign thyroid disease diagnosis; ¹ goiter and benign nodules/adenomas are the strongest non-radiation risk factors
Head/neck radiation exposure (any age)	OR 1.92	Adult head/neck radiation exposure modestly elevates risk ; ²⁵ lower-magnitude effect than childhood exposure; risk not significantly increased for occupational doses 0.5 Gy
Hereditary syndromes (MEN2A/2B)	25% of MTC cases have germline RET variants	RET germline testing for any MTC diagnosis ; ^{1,17} prophylactic thyroidectomy recommended based on specific RET codon; >90% MTC penetrance

FACTOR	RISK SIGNAL	NOTES
Hereditary DTC (Cowden/PHTS, FAP)	3-9% of well-differentiated thyroid cancers	Consider genetics referral for personal/family history of breast, endometrial, or colorectal cancer ; Cowden syndrome confers 10-30% lifetime thyroid cancer risk ¹⁷
Obesity (BMI ≥30)	Positively associated with PTC and FTC	Magnitude varies ; obesity prevalence increase parallels thyroid cancer incidence trends; ⁴ weight management may modify long-term risk
Age ≥55 with intermediate-risk DTC	12% of patients downstaged by AJCC 8th Edition age change	AJCC 8th Edition uses 55-year cutoff; ¹⁹ patients 55 are Stage I unless distant metastases present ¹⁷

ABBREVIATIONS: ERR = excess relative risk; Gy = gray; FTC = follicular thyroid cancer; MTC = medullary thyroid cancer; ATC = anaplastic thyroid cancer; AJCC = American Joint Committee on Cancer; OR = odds ratio; SIR = standardized incidence ratio; MEN = multiple endocrine neoplasia; RET = rearranged during transfection (proto-oncogene); DTC = differentiated thyroid cancer; PHTS = PTEN hamartoma tumor syndrome; FAP = familial adenomatous polyposis; BMI = body mass index; PTC = papillary thyroid cancer



CLINICAL PEARL: WHY THE 3:1 FEMALE PREDOMINANCE?

Thyroid cancer is diagnosed **3x more often in women than men** (17.7 vs 6.0 per 100,000), a ratio that **peaks during reproductive years** (4.1:1 at ages 20–49) and narrows to **near-parity after age 75**.^{1,26} Three mechanisms are proposed:

- **Estrogen-driven proliferation.**^{26–28} Thyroid cancer cells overexpress estrogen receptor α (ER α), which promotes cell proliferation via MAPK and PI3K pathways; ER β , which is tumor-suppressive, is downregulated in papillary thyroid carcinoma (PTC). Incidence rises sharply at puberty, peaks during reproductive years, and declines after menopause, paralleling estrogen exposure
- **Reproductive and hormonal exposures.**^{29–31} A pooled analysis of >1.2 million women found modest associations with younger age at menarche (HR 1.28), menopausal hormone therapy (HR 1.16), and prior hysterectomy/oophorectomy (HR 1.25–1.58), while **longer oral contraceptive use was protective** (HR 0.86). However, a 2025 Mendelian randomization study found no strong causal evidence for reproductive or hormonal factors, suggesting the relationship remains **incompletely understood**
- **Detection bias — the overlooked driver.**^{32,33} A landmark JAMA Internal Medicine autopsy meta-analysis found **no sex difference in subclinical PTC prevalence** (14% women vs 11% men; OR 1.07). The observed 4.4:1 female excess is confined almost entirely to **small, localized PTCs**: the type most susceptible to **incidental detection**. Women access healthcare more frequently, receive more thyroid ultrasounds, and are more likely to be referred for nonspecific symptoms, creating a **self-reinforcing diagnostic cascade**. As cancer lethality increases, the sex ratio **approaches 1:1**, and thyroid cancer mortality is equal between sexes (W:M ratio 1.02:1)

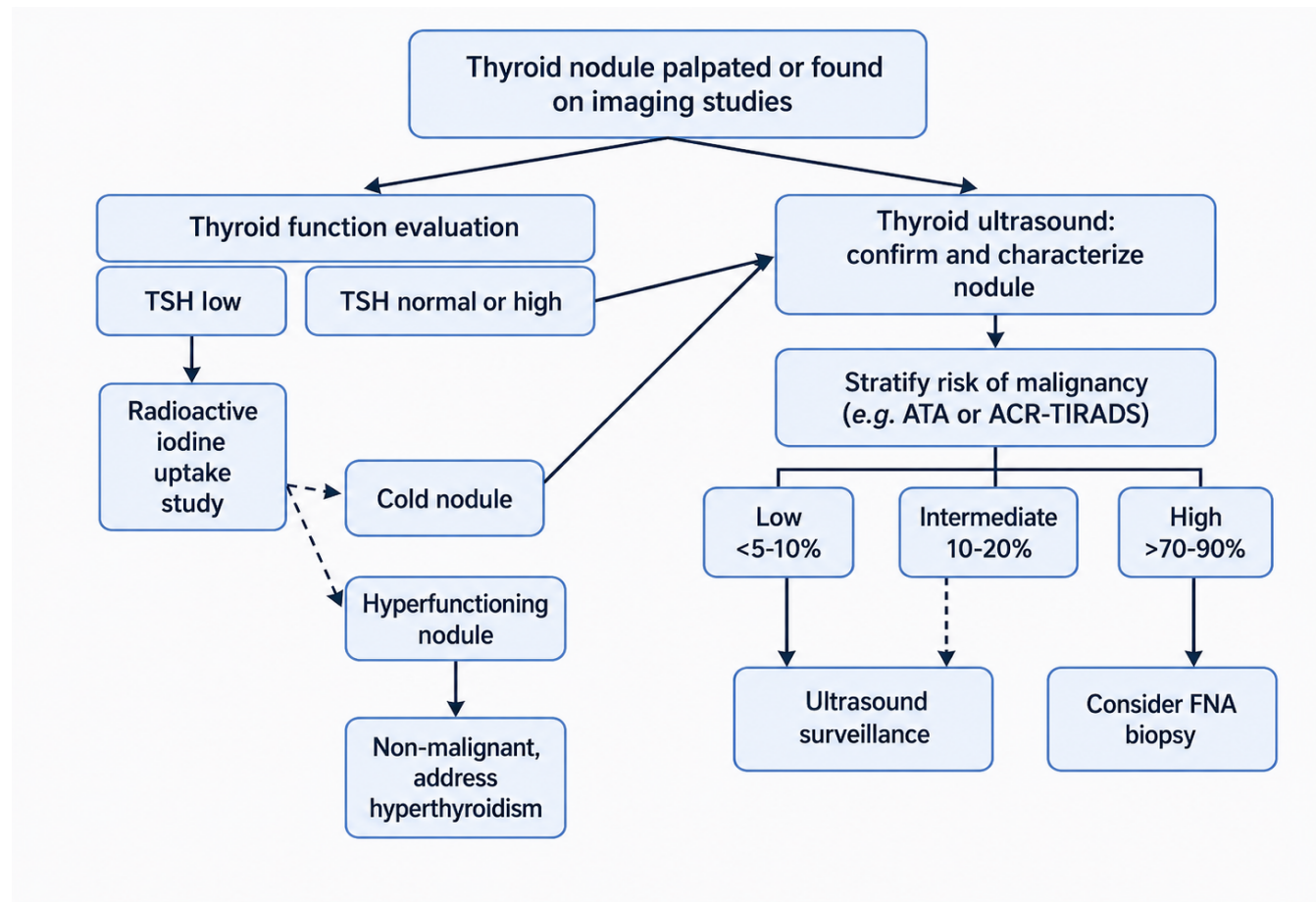
Bottom line for primary care: The 3:1 ratio reflects a combination of genuine biological susceptibility (estrogen/ER signaling) and substantial overdetection of indolent disease in women. Male patients with thyroid nodules or alarm symptoms **warrant the same diagnostic urgency**: thyroid cancer in men presents at **more advanced stages** and carries worse prognosis.^{1,26}

Diagnostic Thresholds

Thyroid cancer evaluation follows a **stepwise sequence**: clinical detection (palpation or incidental imaging finding), **TSH measurement** to determine functional status, ultrasound characterization with risk stratification, **FNA biopsy** when size and suspicion thresholds are met, and **cytopathologic classification** to guide surgical decision-making.^{1,17} **TSH is the first laboratory test ordered** for any thyroid nodule and serves as a gatekeeper that can **deprioritize patients from invasive biopsy**: a **suppressed TSH** (below the reference range) directs the workup to a **radionuclide scan**, and if the nodule demonstrates focal uptake (hyperfunctioning/"hot" nodule), **FNA is not required**; these nodules carry very low malignancy risk, avoiding an unnecessary invasive procedure.³⁴ Conversely, **TSH in the upper-normal range or above** independently increases malignancy risk in a dose-dependent fashion (adjusted OR 4.56 for TSH ≥ 5.0 mIU/L vs. suppressed TSH), which can appropriately lower the threshold for FNA in borderline-size nodules

and improve diagnostic yield.^{22,35} For nodules with **normal or elevated TSH**, the critical branch point is the **ultrasound risk category**: nodules classified as low suspicion follow observation pathways, while **intermediate-to-high suspicion nodules** are triaged to **FNA based on size thresholds** defined by the **ATA 2025 guidelines and ACR TI-RADS**.^{4,15} Molecular testing can further refine management for indeterminate cytology (Bethesda III/IV), helping avoid unnecessary diagnostic surgery. This TSH-first approach **improves diagnostic accuracy while reducing** low-yield biopsies, invasive procedures, and associated healthcare utilization.

Initial Diagnostic Workup of a Detected Thyroid Nodule



Initial Imaging: ACR TI-RADS Risk Stratification

ACR TI-RADS LEVEL ¹⁵	RISK ASSESSMENT ¹⁵	MANAGEMENT ^{15,16}
TR1 (0 points)	Benign	No FNA needed
TR2 (2 points)	Not suspicious	No FNA needed
TR3 (3 points)	Mildly suspicious (~5% malignancy risk)	FNA if ≥ 2.5 cm; follow-up if ≥ 1.5 cm
TR4 (4-6 points)	Moderately suspicious (5-20% malignancy risk)	FNA if ≥ 1.5 cm; follow-up if ≥ 1.0 cm

ACR TI-RADS LEVEL ¹⁵	RISK ASSESSMENT ¹⁵	MANAGEMENT ^{15,16}
TR5 (≥7 points)	Highly suspicious (>20% malignancy risk)	FNA if ≥1.0 cm; follow-up if ≥0.5 cm

ABBREVIATIONS: ACR = American College of Radiology; TI-RADS = Thyroid Imaging Reporting and Data System; FNA = fine-needle aspiration

Cytopathology: Bethesda System for Reporting Thyroid Cytopathology (3rd Edition, 2023)

BETHESDA CATEGORY ^{17,36}	RISK OF MALIGNANCY (MEAN RANGE) ^{17,36}	MANAGEMENT ³⁶
I — Nondiagnostic	1-10% (estimated)	Repeat FNA
II — Benign	~4%	Clinical/ultrasound follow-up
III — Atypia of undetermined significance (AUS)	22% (13-30%)	Molecular testing, repeat FNA, or surveillance; consider lobectomy if AUS on ≥2 occasions
IV — Follicular neoplasm	30% (23-34%)	Molecular testing or diagnostic lobectomy
V — Suspicious for malignancy	74% (67-83%)	Surgery (lobectomy or total thyroidectomy)
VI — Malignant	97% (97-100%)	Surgery (lobectomy or total thyroidectomy)

ABBREVIATIONS: FNA = fine-needle aspiration; AUS = atypia of undetermined significance

Staging Systems

AJCC 8th Edition TNM (2017) is the standard pathologic staging system for thyroid carcinoma, with separate staging schemas for differentiated/anaplastic carcinoma and medullary carcinoma.¹⁷ A unique feature is the **age-based staging** for differentiated thyroid cancer (DTC): all patients <55 are classified as **Stage I** (any T, any N, M0) or **Stage II** (any T, any N, M1), reflecting the excellent prognosis in younger patients.¹⁷ The age cutoff was changed **from 45** (7th edition) **to 55**, which downstaged 20-30% of patients and improved concordance probability from 0.90 to 0.92.⁴ Microscopic extrathyroidal extension no longer upstages to T3.⁴ AJCC staging predicts disease-specific survival but **not recurrence**; it is **complementary to the ATA risk stratification system**.

AJCC 8th Edition Prognostic Stage Groups- Differentiated Thyroid Carcinoma

STAGE	T	N	M	AGE
I	Any T	Any N	M0	55
II	Any T	Any N	M1	55

STAGE	T	N	M	AGE
I	T1-T2	N0/NX	M0	≥55
II	T1-T2	N1	M0	≥55
II	T3a/T3b	Any N	M0	≥55
III	T4a	Any N	M0	≥55
IVA	T4b	Any N	M0	≥55
IVB	Any T	Any N	M1	≥55

ABBREVIATIONS: T = tumor; N = node; M = metastasis

Adapted from: Amin MB, Edge SB, Greene FL, *et al.*, eds. AJCC Cancer Staging Manual. 8th ed. New York: Springer; 2017

T Definitions - Differentiated and Anaplastic Carcinoma

T CATEGORY	DEFINITION
T1a	≤1 cm, limited to thyroid
T1b	>1 cm but ≤2 cm, limited to thyroid
T2	>2 cm but ≤4 cm, limited to thyroid
T3a	>4 cm, limited to thyroid
T3b	Gross ETE invading only strap muscles, any size
T4a	Gross ETE invading subcutaneous soft tissues, larynx, trachea, esophagus, or RLN, any size
T4b	Gross ETE invading prevertebral fascia or encasing carotid artery/mediastinal vessels, any size

ABBREVIATIONS: T = tumor; ETE = extrathyroidal extension; RLN = recurrent laryngeal nerve

Adapted from: Amin MB, Edge SB, Greene FL, *et al.*, eds. AJCC Cancer Staging Manual. 8th ed. New York: Springer; 2017

AJCC 8th Edition Prognostic Stage Groups- Medullary Thyroid Carcinoma

STAGE	T	N	M
I	T1	N0	M0
II	T2-T3	N0	M0
III	T1-T3	N1a	M0
IVA	T4a or T1-T3 with N1b	Any N/N1b	M0

STAGE	T	N	M
IVB	T4b	Any N	M0
IVC	Any T	Any N	M1

ABBREVIATIONS: T = tumor; N = node; M = metastasis

Adapted from: Amin MB, Edge SB, Greene FL, *et al.*, eds. AJCC Cancer Staging Manual. 8th ed. New York: Springer; 2017

Other Relevant Staging and Classification Systems

SYSTEM	BASIS	KEY FEATURES	PRIMARY USE	KEY DISTINCTIONS FROM AJCC ¹⁹
2025 ATA Risk Stratification ⁴	Histopathology , cervical LN count, AJCC stage, postoperative imaging, Tg/TgAb	Low/low-intermediate/intermediate-high/high risk (4-tier system, updated from 3-tier in 2015)	Predicts structural disease persistence/recurrence ; guides intensity of surveillance and adjuvant therapy	Better predictor of recurrence than AJCC staging alone (PVE 25% vs 21%); AJCC predicts survival, ATA predicts recurrence
ATA Dynamic Risk Stratification (Response to Therapy) ⁴	Postoperative Tg/TgAb , imaging response	Excellent/indeterminate/biochemically incomplete/structurally incomplete response	Ongoing risk assessment during follow-up; guides surveillance intensity and TSH-suppression goals	Refines initial risk over time ; 76% achieve excellent response at 1 year; PVE 57-59% vs 21% for AJCC alone
WHO 5th Edition Classification (2022) ³⁷	Histologic type , molecular markers, grading	Classifies follicular cell-derived tumors into benign, low-risk neoplasms, and malignant ; introduces DHGTC as new high-grade category alongside PDC	Pathologic diagnosis ; determines histologic subtype and grade input for both AJCC and ATA systems	Not a staging system ; complements staging by defining tumor biology; recognizes OTC as distinct from FTC ; introduces grading for DTC
Bethesda System (3rd Edition, 2023) ³⁶	FNA cytopathology	6 diagnostic categories (I-VI) with implied ROM; updated nomenclature aligned with WHO 5th edition	Standardized cytology reporting ; guides surgical vs surveillance decision-making	Pre-surgical classification ; determines need for surgery, not post-surgical staging

SYSTEM	BASIS	KEY FEATURES	PRIMARY USE	KEY DISTINCTIONS FROM AJCC ¹⁹
ABBREVIATIONS: ATA = American Thyroid Association; LN = lymph node; AJCC = American Joint Committee on Cancer; Tg = thyroglobulin; TgAb = thyroglobulin antibody; PVE = proportion of variation explained; TSH = thyroid-stimulating hormone; WHO = World Health Organization; DHGTC = differentiated high-grade thyroid carcinoma; PDTC = poorly differentiated thyroid cancer; OTC = oncocytic thyroid carcinoma; FTC = follicular thyroid cancer; DTC = differentiated thyroid cancer; FNA = fine-needle aspiration; ROM = risk of malignancy				

Clues to Dig Deeper

CLINICAL CLUE	WHY IT MATTERS	NEXT DIAGNOSTIC STEP
Palpable thyroid nodule in any adult	Most thyroid cancers present asymptotically; palpation during annual wellness visit is the most common diagnostic entry point ^{1,4}	Thyroid/neck ultrasound with TI-RADS classification; TSH ^{4,15}
Family history of MTC or MEN2 syndrome	Hereditary MTC accounts for 25% of cases; ¹ RET germline testing has clinical and family-screening implications ¹⁷	Refer for genetic counseling ; baseline calcitonin; thyroid ultrasound ¹⁷
Childhood head/neck radiation history	Strongest established risk factor (excess RR 5.25 per Gy); document explicitly in history ⁴	Baseline thyroid ultrasound ; ongoing surveillance per endocrinology ¹
Rising thyroglobulin or new TgAb post-thyroidectomy	Suggests recurrent/persistent disease: Tg trend matters more than absolute value; TgAb interferes with Tg assay ⁴	Expedited endocrinology referral ; neck ultrasound; consider cross-sectional imaging or whole-body RAI scan ^{4,17}
New cervical lymphadenopathy in patient with known thyroid cancer	Suggests regional recurrence: FNA with thyroglobulin washout is more sensitive than cytology alone ⁴	FNA of suspicious node with Tg washout within 1-2 weeks ; do not defer ⁴
Persistent voice change >2 weeks in patient ≥55	May indicate recurrent laryngeal nerve invasion from a thyroid mass ^{1,4}	ENT laryngoscopy ; thyroid ultrasound; cross-sectional imaging if mass found ^{1,4}
Persistent fatigue in patient on lenvatinib	Primary adrenal insufficiency found in 77.4% of lenvatinib-treated patients on ACTH stimulation;* ³⁸ often misattributed to drug-related fatigue	Consider ACTH stimulation testing ; coordinate with endocrinology for cortisone replacement if confirmed

CLINICAL CLUE	WHY IT MATTERS	NEXT DIAGNOSTIC STEP
ABBREVIATIONS: TI-RADS = Thyroid Imaging Reporting and Data System; TSH = thyroid-stimulating hormone; MTC = medullary thyroid cancer; MEN = multiple endocrine neoplasia; RET = rearranged during transfection (proto-oncogene); RR = relative risk; Gy = gray; TgAb = thyroglobulin antibody; Tg = thyroglobulin; RAI = radioactive iodine; FNA = fine-needle aspiration; ENT = ear, nose, and throat; ACTH = adrenocorticotrophic hormone *Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions		

Common Oversights

OVERSIGHT/SHORTCUT	WHY IT MATTERS — WHAT TO DO INSTEAD
Skipping neck palpation at annual wellness visits	Routine palpation remains the most common entry point to thyroid cancer diagnosis ; nodule detection at AWV supports timely workup before symptoms appear ⁴
Assuming a nodule is benign based on size alone	Suspicious sonographic features (microcalcifications, irregular margins, taller-than-wide shape, hypoechogenicity) drive FNA decisions, not nodule size in isolation ^{4,15,16}
Reflexive FNA of every nodule found on ultrasound	Risk-stratify with TI-RADS first ; ^{15,16} FNA only when size/suspicion criteria are met ; ⁴ reflexive FNA of all nodules is low-value care
Defaulting to total thyroidectomy referral for confirmed cancer	ATA 2025 prefers lobectomy for tumors 1–4 cm without ETE/distant metastases/lateral LN metastases; ⁴ comparable 5-year RFS with substantially lower complication rates ⁴
Aggressive TSH suppression in elderly low-risk DTC	Increases atrial fibrillation and osteoporosis risk without recurrence benefit; ^{4,17} target normal TSH range for disease-free low-risk patients
Misapplying USPSTF Grade D to symptomatic or high-risk patients	USPSTF Grade D applies only to asymptomatic screening in average-risk adults ; ¹⁴ symptomatic patients and those with radiation history, MEN2, or family history of MTC warrant evaluation
Counseling reflexive surgery for elderly PTMC	Active surveillance is endorsed by ATA 2025 and NCCN v1.2026 for low-risk PTMC ; ^{4,17} ~95% of patients ≥65 continue AS at 5 years without progression ¹⁰

ABBREVIATIONS: AWV = Annual Wellness Visit; FNA = fine-needle aspiration; TI-RADS = Thyroid Imaging Reporting and Data System; ATA = American Thyroid Association; ETE = extrathyroidal extension; LN = lymph node; RFS = recurrence-free survival; TSH = thyroid-stimulating hormone; DTC = differentiated thyroid cancer; USPSTF = US Preventive Services Task Force; MEN = multiple endocrine neoplasia; MTC = medullary thyroid cancer; PTMC = papillary thyroid microcarcinoma; AS = active surveillance; NCCN = National Comprehensive Cancer Network

Key Differentials in Elderly

PRESENTATION	DIFFERENTIAL	KEY TESTS
Palpable thyroid nodule in patient ≥55	Thyroid cancer (PTC, FTC, MTC, ATC); benign colloid nodule; follicular adenoma; cyst; thyroiditis; substernal goiter ²³	Neck ultrasound with TI-RADS ; TSH; FNA per size/suspicion thresholds ^{4,17}
Rapidly enlarging firm thyroid mass	Anaplastic thyroid cancer ; ^{4,17} lymphoma; sarcoma; thyroiditis (subacute, suppurative); hemorrhage into a nodule	Urgent neck ultrasound ; ¹⁷ FNA with appropriate immunohistochemistry; consider core-needle biopsy
Hoarseness without resolving URI	Recurrent laryngeal nerve invasion from thyroid mass; vocal cord paresis; laryngeal cancer; GERD laryngitis; benign vocal cord lesion	ENT laryngoscopy ; ^{4,17} thyroid ultrasound; CT neck if mass found
Cervical lymphadenopathy in patient with known thyroid cancer	Metastatic thyroid cancer ; reactive lymphadenopathy; lymphoma; other head/neck primary; tuberculosis in endemic populations ⁴	FNA of node with thyroglobulin washout ; ⁴ cytology; cross-sectional imaging
Unexplained calcitonin elevation	Medullary thyroid cancer ; C-cell hyperplasia; ectopic calcitonin production (neuroendocrine tumors)	Repeat calcitonin ; ³⁹ neck ultrasound; consider RET germline testing; staging if confirmed
Rising Tg post-thyroidectomy	Recurrent/persistent thyroid cancer ; remnant thyroid tissue; TgAb interference (false low or high)	Tg + TgAb ; neck ultrasound; whole-body RAI scan; cross-sectional imaging ^{4,17}

ABBREVIATIONS: PTC = papillary thyroid cancer; FTC = follicular thyroid cancer; MTC = medullary thyroid cancer; ATC = anaplastic thyroid cancer; TI-RADS = Thyroid Imaging Reporting and Data System; TSH = thyroid-stimulating hormone; FNA = fine-needle aspiration; Tg = thyroglobulin; TgAb = thyroglobulin antibody; RAI = radioactive iodine; ENT = ear, nose, and throat; CT = computed tomography; GERD = gastroesophageal reflux disease; RET = rearranged during transfection (proto-oncogene); URI = upper respiratory infection

Comorbidity Screening

CONDITION	PREVALENCE/ASSOCIATION	SCREENING APPROACH
Hypothyroidism, post-procedural (E89.0)	100% after total thyroidectomy ; ~30% after lobectomy ⁴	TSH q6-12 mo once stable ; ¹⁷ levothyroxine titration; reinforce empty-stomach dosing protocol
Hypoparathyroidism, post-procedural (E89.2)	Permanent in 1-2% of total thyroidectomies ; ⁴⁰ higher fall/fracture consequence in elderly	Calcium and intact PTH post-op ; ongoing calcium/vitamin D; document monitoring

CONDITION	PREVALENCE/ASSOCIATION	SCREENING APPROACH
Atrial fibrillation (I48.x)	TSH suppression linked to increased AF risk , particularly in patients ≥ 60 ⁴	Baseline ECG ; reassess at TSH-suppression initiation; cardiology referral if symptomatic ^{4,17}
Osteoporosis (M81.0)	Long-term TSH suppression deleterious to bone mass in postmenopausal women ⁴¹	DEXA at TSH-suppression initiation ; ¹⁷ q2 years; calcium + vitamin D; bisphosphonate if T-score ≤ -2.5
Hypertension (I10)	Lenvatinib causes hypertension in majority of patients ;* preexisting CV disease may favor sorafenib	Baseline BP control ; daily home BP monitoring after TKI initiation; cardio-oncology consult if needed ¹⁷
Renal impairment (N18.x)	Common in elderly; affects lenvatinib dosing and Tg interpretation* ⁴	eGFR at baseline and periodically during systemic therapy ; ⁴ dose-adjust lenvatinib*
Depression/anxiety (F32.x/F41.x)	TSH suppression associated with depressive and anxiety symptoms ⁴¹	PHQ-9 at baseline and during treatment; coordinate mental health support
Polypharmacy	TKIs introduce QTc-prolongation risk ;* levothyroxine absorption affected by Ca/Fe/PPI/antacids	Medication reconciliation every visit ; deprescribing review; pharmacist consult before TKI initiation
Cognitive decline (G31.84, F03.x)	May impair adherence to levothyroxine timing and home BP monitoring during TKI therapy ³	Document functional capacity ; engage caregiver in medication management; consider pill organizers

ABBREVIATIONS: TSH = thyroid-stimulating hormone; PTH = parathyroid hormone; AF = atrial fibrillation; ECG = electrocardiogram; DEXA = dual-energy X-ray absorptiometry; BP = blood pressure; CV = cardiovascular; TKI = tyrosine kinase inhibitor; eGFR = estimated glomerular filtration rate; Tg = thyroglobulin; PHQ-9 = Patient Health Questionnaire-9; Ca = calcium; Fe = iron; PPI = proton pump inhibitor

***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

**RED FLAG — EMERGENCY/ACTIVATE CRISIS RESPONSE**

These emergency conditions require **same-day ED transfer or emergent surgical/ENT consultation**:

- **Acute airway compromise from rapidly enlarging thyroid mass** (stridor, dyspnea, inability to lie flat) = suggests **anaplastic thyroid cancer or hemorrhage into a nodule**²³
 - → **Emergent ENT/surgical airway evaluation**; CT neck if stable; prepare for possible surgical airway
 - × ATC median survival **3-5 months**; airway obstruction is the leading cause of death
- **Severe hypocalcemia post-thyroidectomy** (tetany, seizures, QTc prolongation, Chvostek/Trousseau signs) in the immediate postoperative period (E89.2)¹⁷
 - → **IV calcium gluconate**; check intact PTH and ionized calcium; continuous cardiac monitoring
 - × Untreated severe hypocalcemia can progress to laryngospasm, seizures, and cardiac arrest
- **Post-thyroidectomy neck hematoma** (expanding neck swelling with respiratory distress within hours of surgery)
 - → Surgical emergency requiring bedside wound exploration if airway threatened; do **not** wait for OR availability
 - × Compressive hematoma can cause complete airway obstruction within minutes

**RED FLAG — URGENT (24-72 HOURS)**

Expedited workup required = **do not** refer to routine follow-up:

- **Suspected anaplastic thyroid cancer** (rapidly growing, fixed, hard thyroid mass ± vocal cord paralysis)²³
 - → Urgent neck ultrasound + FNA/core biopsy with immunohistochemistry; immediate multidisciplinary oncology referral
 - × ATC is the most lethal thyroid malignancy; delays in diagnosis reduce already limited treatment options
- **Bethesda V or VI cytology — malignant or suspicious for malignancy**⁹
 - → **Schedule surgery promptly**; do not place on routine surgical waitlist
 - × Bethesda VI carries ~**97% malignancy risk**; Bethesda V ~**74%**
- **Calcitonin > 300 pg/mL in suspected/confirmed MTC**
 - → **Urgent staging** (CT neck/chest/liver, pheochromocytoma screening, RET germline testing); surgical planning
 - × Elevated calcitonin suggests significant tumor burden; delays risk unresectable progression
- **New vocal cord paralysis in patient with thyroid mass** — possible recurrent laryngeal nerve invasion¹⁷
 - → **Urgent ENT laryngoscopy**; cross-sectional imaging; expedited surgical evaluation
 - × Vocal cord paralysis indicates **locally advanced disease** requiring modified surgical approach
- **Rising Tg or new TgAb post-thyroidectomy**^{4,42}
 - → **Expedited endocrinology referral**; neck ultrasound; consider cross-sectional imaging or whole-body RAI scan
 - × Rising trend suggests recurrent/persistent disease; early detection improves salvage options

3 MEAT DOCUMENTATION ESSENTIALS

Thyroid cancer documentation translates clinical complexity into a record that supports continuity, quality measurement, and accurate risk adjustment. **The most frequent pitfalls:** vague language ("mass," "suspicious for") that **prevents C73 assignment**, omission of **histologic subtype**, missed **metastatic site coding**, and inappropriate **Z85.850 in patients under active surveillance**. The MEAT framework below ties each element into **appropriate clinical action**:

*A 71-year-old female presents for an AWV. Neck palpation reveals a firm **1.2 cm** right thyroid nodule; no cervical lymphadenopathy. Denies dysphagia, hoarseness, weight change. **PMH:***

hypertension (lisinopril), osteoporosis (alendronate). Family history: aunt with breast cancer. No childhood radiation. Functional status: independent ADLs; **G-8 14**.

MONITOR: "Smoking status: never. Weight: stable at 68 kg. Functional status: independent ADLs; **G-8 = 14** → no geriatric vulnerability flagged. Neck exam: firm, well-circumscribed **1.2 cm right thyroid nodule**; no cervical lymphadenopathy. TSH 1.8 mIU/L (normal). No alarm symptoms: no hoarseness, dysphagia, rapid growth, or compressive symptoms."

EVALUATE: "Thyroid/neck ultrasound (date): 1.2 cm hypoechoic solid nodule, right lobe, with microcalcifications and irregular margins; **ACR TI-RADS TR5** (highly suspicious, 5 points). No suspicious cervical lymph nodes. **FNA biopsy under ultrasound guidance** ordered per ATA 2025 size/suspicion thresholds. FNA cytology (date): **Bethesda VI** (malignant): papillary thyroid carcinoma."

ASSESS: "Papillary thyroid carcinoma, right lobe, confirmed on FNA pathology (**C73**). **Associated:** essential hypertension (**I10**); osteoporosis without pathological fracture (**M81.0**). **G-8 14** = no formal CGA indicated; functional monitoring continues. **PHQ-9 screened:** [score]."

TREAT: "Referred to endocrine surgery. Tumor 1.2 cm, no ETE, no nodal disease, no distant metastases = **lobectomy preferred per ATA 2025** (strong recommendation, cT1). Active surveillance discussed (AS most strongly supported ≤1 cm; borderline at 1.2 cm). **Pre-op:** optimize BP; baseline calcium and vitamin D; coordinate alendronate timing with levothyroxine if initiated post-op. **Post-lobectomy plan:** TSH target normal range (not suppressed); surveillance ultrasound at 12 months; ~30% will require levothyroxine vs 100% after total thyroidectomy. Shared decision-making documented; **patient elects lobectomy**. ACP documented (CPT 99497): surrogate named, code status discussed."

Clinical Documentation Elements

- **Document histologic subtype explicitly:** 'Papillary thyroid carcinoma'/'Follicular thyroid carcinoma'/'Medullary thyroid carcinoma'/'Anaplastic thyroid carcinoma'; **C73 is the only ICD-10 code** for primary thyroid malignancy, **but subtype drives:** treatment selection, staging accuracy, and medical necessity^{1,4,17}
- **Document AJCC 8th Edition stage and stage type:** cTNM (clinical), pTNM (pathologic), ypTNM (post-neoadjuvant); age 55 is the **cutoff for DTC staging**
- **Document the 2025 ATA risk category** (low/intermediate/high) and **dynamic risk stratification** response category at each post-treatment visit
- **Code each metastatic site separately:** **C77.0** (cervical LN), **C78.01/02** (lung, with laterality), **C79.51** (bone), **C79.31** (brain) = each documented site supports the **patient's clinical complexity** and care coordination
- **Document active surveillance status explicitly:** '**C73**, active surveillance, ultrasound q6 months x 1–2 years then annually; **no current evidence of progression**' **Do not** use Z85.850 for AS patients
- **Document TSH target by risk category and disease status:** normal range for low-risk disease-free post-lobectomy; mild suppression (0.1–0.5 mIU/L) first year for intermediate-risk; suppression (<0.1 mIU/L) for active high-risk disease, then relaxed as response data accumulate⁴

- **Document comorbidity burden affecting treatment selection:** cardiovascular disease, renal impairment, osteoporosis, depression/anxiety, polypharmacy, functional and cognitive status^{3,4}
- **Document advance care planning** discussion for elderly patients facing AS vs. surgery, particularly those with significant comorbidities or limited life expectancy^{17,20,21}

Reframing Common Documentation Shortcuts

INSTEAD OF...	DOCUMENT... ^{*3,4,17}
'Thyroid cancer'	'Papillary thyroid carcinoma, right lobe (C73), cT1bN0M0 (Stage I, age <55), 2025 ATA low risk; lobectomy planned '
'Nodule consistent with malignancy'	'Papillary thyroid carcinoma confirmed on FNA cytology (Bethesda VI)' (C73); require definitive language to assign C73
'Metastatic thyroid cancer'	'Papillary thyroid carcinoma (C73) with cervical lymph node metastasis (C77.0) and right lung metastasis (C78.01)' = code each site separately
'Personal history of thyroid cancer'	Use Z85.850 ONLY after definitive treatment with no active disease; AS patients retain C73
'On thyroid suppression therapy'	'Levothyroxine 100 mcg daily, TSH target 0.1–0.5 mIU/L for ATA intermediate-risk DTC first year post-thyroidectomy; q6 mo TSH monitoring'
'Frail elderly patient'	' G-8 score 11 → comprehensive geriatric assessment completed; Fried Frailty Criteria positive; functional status ECOG 1; CGA-guided treatment modifications planned '
'On lenvatinib'	'Lenvatinib 14 mg PO daily (dose-reduced from 20 mg for grade 2 hypertension); home BP monitoring; q3-month TSH and urinalysis; baseline ECG'
'Post-thyroidectomy hypothyroidism'	'Post-procedural hypothyroidism (E89.0) on levothyroxine 125 mcg daily; TSH 2.1 mIU/L (within target for ATA low-risk DTC, no evidence of disease)'
'Post-thyroidectomy'	'Status post total thyroidectomy and central neck dissection for 2.5 cm papillary thyroid carcinoma; ATA intermediate risk; on levothyroxine; surveillance ultrasound and Tg q6 mo'
'Active surveillance for thyroid cancer'	'Papillary thyroid microcarcinoma, low-risk (C73, T1aN0M0); active surveillance per 2025 ATA and NCCN v1.2026; ultrasound q6 mo × 18 mo then annually; no growth >3 mm and no new lymphadenopathy'

ABBREVIATIONS: ATA = American Thyroid Association; FNA = fine-needle aspiration; AS = active surveillance; TSH = thyroid-stimulating hormone; DTC = differentiated thyroid cancer; G-8 = Geriatric 8 screening; CGA = comprehensive geriatric assessment; ECOG = Eastern Cooperative Oncology Group; BP = blood pressure; ECG = electrocardiogram; Tg = thyroglobulin; NCCN = National Comprehensive Cancer Network

***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

**DOCUMENTATION IS COMPREHENSIVE CODING**

Every active thyroid cancer encounter should document histologic subtype (papillary, follicular, medullary, anaplastic),^{1,4} AJCC 8th Edition stage and stage type (cTNM, pTNM, ypTNM),¹⁹ 2025 ATA risk category and dynamic risk response,⁴ metastatic sites coded separately (C77.0, C78.0x, C79.51, C79.31), current treatment line (surgery, RAI, systemic) and cycle/cadence,^{3,4,17} TSH target and most recent value, performance status (ECOG), G-8/CGA findings if applicable, and the **full comorbidity burden** (cardiovascular disease, renal impairment, osteoporosis, depression/anxiety, polypharmacy).

4 TREATMENT AND REFERRAL QUICK GUIDE

Treatment in thyroid cancer is driven by: histologic subtype (papillary, follicular, medullary, anaplastic), AJCC stage, 2025 ATA risk category, biomarker status (RET for MTC; BRAF V600E for ATC; NTRK fusions for refractory DTC), and functional/geriatric assessment, **not chronological age alone.**¹⁷ **A fit 80-year-old** may tolerate definitive treatment similarly to a younger patient; **a frail 65-year-old may not.**^{3,4,17,21} **The PCP's highest-value contributions are:** recognizing palpable nodules at annual visits, ensuring risk-stratified workup (**TI-RADS-guided FNA**), advocating for active surveillance in appropriate low-risk elderly patients, proactively managing the comorbidity burden that affects treatment tolerability, and co-monitoring during systemic therapy.^{3,4,17}

Therapy Escalation Criteria

TRIGGER ^{3,4,17,21}	ACTION* ^{3,4,17,21}
Palpable thyroid nodule on neck examination	Order TSH level as first laboratory test; order thyroid/neck ultrasound with ACR TI-RADS classification
TSH below reference range (suppressed)	Order radionuclide thyroid scan (Tc-99m or I-123); if nodule is hyperfunctioning ("hot"), FNA is not indicated → malignancy risk is negligible; evaluate for hyperthyroidism management
TSH normal or elevated with suspicious ultrasound features (TI-RADS 4 or 5) ≥1 cm	FNA biopsy under ultrasound guidance (CPT 10005) within 1–2 weeks; do not defer to routine follow-up; note that upper-normal or elevated TSH independently increases malignancy risk
Suspicious ultrasound features (TI-RADS 4 or 5) ≥1 cm	FNA biopsy under ultrasound guidance (CPT 10005) within 1–2 weeks; do not defer to routine follow-up
Bethesda V or VI cytology	Refer to endocrine surgery promptly; do not place on routine surgical waitlist

TRIGGER ^{3,4,17,21}	ACTION ^{*3,4,17,21}
Bethesda III or IV cytology	Consider molecular testing or repeat FNA; refer to endocrinology
Confirmed PTMC ≤1 cm, low-risk, elderly patient	Counsel on active surveillance as alternative to surgery ; shared decision-making; ultrasound q6 mo × 1–2 y then annually
Confirmed thyroid cancer 1–4 cm, no ETE, no LN/distant metastases, no high-risk histology	Refer to endocrine surgery for lobectomy (preferred per ATA 2025)
Total thyroidectomy indication: >4 cm, ETE, lateral cervical LN, distant metastases, high-grade histology	Refer to high-volume thyroid surgeon (≥10–32 cases/year) at experienced center
Confirmed MTC or suspected hereditary syndrome	RET germline testing ; baseline calcitonin and CEA ; total thyroidectomy with central neck dissection; refer to MTC-experienced surgeon
Suspected anaplastic thyroid cancer	Immediate multidisciplinary oncology evaluation; BRAF V600E testing; dabrafenib/trametinib eligibility assessment if BRAF V600E positive
RAI-refractory progressive DTC	Refer to medical oncology for first-line lenvatinib 24 mg PO daily (or sorafenib 400 mg PO BID alternative)
RAI-refractory MTC with RET mutation	Selpercatinib (significantly better PFS and tolerability vs. cabozantinib/vandetanib in LIBRETTO-531)
Post-thyroidectomy: rising Tg or new TgAb	Expedited endocrinology referral ; neck ultrasound; consider whole-body RAI scan or cross-sectional imaging
G-8 ≤14 or established frailty in older adult	Comprehensive geriatric assessment before treatment decisions; consider reduced-intensity treatment plans

ABBREVIATIONS: ACR = American College of Radiology; TI-RADS = Thyroid Imaging Reporting and Data System; TSH = thyroid-stimulating hormone; FNA = fine-needle aspiration; CPT = Current Procedural Terminology; PTMC = papillary thyroid microcarcinoma; ETE = extrathyroidal extension; LN = lymph node; ATA = American Thyroid Association; MTC = medullary thyroid cancer; RET = rearranged during transfection (proto-oncogene); CEA = carcinoembryonic antigen; RAI = radioactive iodine; DTC = differentiated thyroid cancer; PFS = progression-free survival; Tg = thyroglobulin; TgAb = thyroglobulin antibody; G-8 = Geriatric 8 screening

***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

ATA 2025/NCCN v1.2026-Aligned Treatment by Subtype, Stage, and Patient Profile

SUBTYPE/SETTING	PREFERRED REGIMEN(S)	KEY PCP NOTES
Low-risk PTMC (≤ 1 cm, T1aN0M0), elderly	Active surveillance with ultrasound q6 mo $\times$ 1–2 y then annually ^{4,17}	Safe long-term strategy ; no thyroid cancer deaths reported in 30+ years of Japanese data; ^{10,43} approximately 95% of patients aged 65 and older continue AS at 5 years without needing surgery ¹⁰
Low-risk DTC 1–4 cm, cT1–T2N0M0	Lobectomy ⁴	Lower complication rates than total thyroidectomy with comparable oncologic outcomes; ¹⁷ only approximately 30% require levothyroxine versus 100% after total thyroidectomy ; counsel patients about possible completion thyroidectomy if higher-risk features emerge ⁴
DTC with high-risk features (>4 cm, ETE, lateral cervical LN, distant metastases)	Total thyroidectomy $\pm$ therapeutic neck dissection ⁴	Refer to high-volume thyroid surgeon; lateral neck dissection only for biopsy-proven metastasis ; ^{4,17} routine prophylactic central neck dissection is not indicated for most papillary cancers
Intermediate/high-risk DTC, post-total thyroidectomy	Selective RAI per ATA risk stratification (not routine for low-risk); ^{4,17} rhTSH preferred over hormone withdrawal in elderly ⁴	TSH suppression targets vary by risk : 0.1 to 0.5 mIU/L for intermediate-risk in year 1; ^{4,17} below 0.1 mIU/L for active high-risk disease, then relax as response improves; monitor Tg and TgAb
RAI-refractory progressive DTC, first-line	Lenvatinib 24 mg PO daily (category 1, preferred) ^{3,17}	Preferred first-line MKI per NCCN ; ¹⁷ significant toxicity profile including hypertension, diarrhea, and fatigue; dose reductions are common, especially in elderly patients; sorafenib is an alternative (category 1) if hypertension is a concern ⁴⁴
RAI-refractory DTC, second-line (post-lenvatinib/sorafenib)	Cabozantinib (category 1 for papillary) ¹⁷	FDA-approved for DTC after progression on prior VEGFR-targeted therapy ; ^{4,17} dose reductions required in the majority of patients; key toxicities include hand-foot syndrome, diarrhea, and fatigue
MTC with RET mutation	Selpercatinib (preferred per LIBRETTO-531) ⁴⁵	First-line preferred over cabozantinib/vandetanib per LIBRETTO-531 ; ⁴⁵ superior PFS and substantially better tolerability with lower rates of dose reductions and discontinuations

SUBTYPE/SETTING	PREFERRED REGIMEN(S)	KEY PCP NOTES
RET-fusion-positive thyroid cancer	Selpercatinib or pralsetinib¹⁷	Targeted therapy independent of histologic subtype when RET fusion is confirmed ; ¹⁷ FDA-approved for RET fusion-positive thyroid cancer requiring systemic therapy
BRAF V600E-mutant anaplastic thyroid cancer	Dabrafenib + trametinib¹⁷	Preferred regimen for BRAF V600E-positive ATC per NCCN; ¹⁷ monitor for distinctive pyrexia syndrome that may require corticosteroid management;* treatment breaks and dose modifications are common in elderly patients
NTRK fusion-positive thyroid cancer	Larotrectinib, entrectinib, or repotrectinib¹⁷	Tumor-agnostic indication; effective regardless of histologic subtype when NTRK fusion is confirmed ; ¹⁷ listed as preferred for DTC and useful in certain circumstances for ATC
G-8 ≤14 or established frailty	Comprehensive geriatric assessment; reduced-intensity TKI dosing; favor AS for PTMC; lobectomy over total thyroidectomy when surgery indicated ^{4,21,46}	Treatment decisions should be guided by functional status, not chronologic age ; G-8 score ≤14 identifies patients who warrant full geriatric assessment per NCCN and ASCO guidelines; ^{20,21,47} GA-guided care reduces treatment toxicity ⁴⁸

ABBREVIATIONS: PTMC = papillary thyroid microcarcinoma; AS = active surveillance; DTC = differentiated thyroid cancer; ETE = extrathyroidal extension; LN = lymph node; RAI = radioactive iodine; ATA = American Thyroid Association; rhTSH = recombinant human thyroid-stimulating hormone; TSH = thyroid-stimulating hormone; Tg = thyroglobulin; TgAb = thyroglobulin antibody; MKI = multikinase inhibitor; NCCN = National Comprehensive Cancer Network; VEGFR = vascular endothelial growth factor receptor; MTC = medullary thyroid cancer; PFS = progression-free survival; RET = rearranged during transfection (proto-oncogene); ATC = anaplastic thyroid cancer; NTRK = neurotrophic tyrosine receptor kinase; TKI = tyrosine kinase inhibitor; G-8 = Geriatric 8 screening; GA = geriatric assessment
***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

Non-Pharmacologic Care and Supportive Interventions

INTERVENTION ^{3,4,17,21}	TARGET/RECOMMENDATION ^{3,4,17,21}	NOTES ^{3,4,17,21}
Active surveillance protocol	Ultrasound every 6 months for 1 to 2 years, then annually if stable	Trigger for surgical re-evaluation: >3 mm growth, new LN metastasis, or patient preference
Calcium + vitamin D (post-total thyroidectomy)	Routine after total thyroidectomy to support parathyroid recovery	Especially important in postmenopausal women and those with osteoporosis

INTERVENTION ^{3,4,17,21}	TARGET/ RECOMMENDATION ^{3,4,17,21}	NOTES ^{3,4,17,21}
DEXA scan (long-term TSH suppression)	At initiation of TSH suppression; every 2 years thereafter	Consider pharmacotherapy if T-score ≤ -2.5 or fragility fracture
Daily home BP monitoring (on TKI)	Begin at TKI initiation; log readings for every visit	Hypertension emerges early (median approximately 2 weeks with lenvatinib)
Pharmacist-led medication reconciliation	Before TKI initiation and at every dose change	Screen for QTc-prolongation risk and levothyroxine interactions in polypharmacy
Nutrition support during systemic therapy	Address stomatitis, anorexia, and weight loss	Bland diet, topical analgesics, dose holds as needed; dietitian referral for persistent weight loss
Skin care (sorafenib HFSR)	Urea-based creams, callus removal, cushioned footwear	Preventive care before grade 3 emerges; more common with sorafenib than lenvatinib
Smoking cessation	Quitline; pharmacotherapy if appropriate	Supports treatment tolerance and overall outcomes
Early palliative care	Within 8 weeks of diagnosis for advanced or symptomatic disease	Concurrent with oncology; reduces hospitalizations and improves QoL
Advance care planning	Annually and when goals change	Especially relevant when functional status shapes AS versus surgery decisions

ABBREVIATIONS: LN = lymph node; DEXA = dual-energy X-ray absorptiometry; TSH = thyroid-stimulating hormone; BP = blood pressure; TKI = tyrosine kinase inhibitor; QTc = corrected QT interval; HFSR = hand-foot skin reaction; QoL = quality of life; AS = active surveillance

Medication Safety and Key Interactions

DRUG/CLASS	INTERACTION/TOXICITY* ^{3,4,17,21,46}	CLINICAL ACTION* ^{3,4,17,21,46}
Lenvatinib	Hypertension, proteinuria, stomatitis, weight loss, fatigue; 1 to 2% treatment-related mortality reported across trials	Daily home BP; intensify antihypertensives; dose reductions (24 to 20 to 14 to 10 mg); CrCl <30: start at 14 mg
Sorafenib	Hand-foot skin reaction (most common distinguishing AE), diarrhea, alopecia, hypertension	Preventive skin care (urea creams, callus removal); favored over lenvatinib if uncontrolled HTN

DRUG/CLASS	INTERACTION/TOXICITY* ^{3,4,17,21,46}	CLINICAL ACTION* ^{3,4,17,21,46}
Cabozantinib (DTC, MTC)	Palmar-plantar erythrodysesthesia , hypertension, fatigue, diarrhea	Oral care; dermatologic support; dose reductions common; monitor renal function
Vandetanib (MTC)	Boxed warning: QTc prolongation, torsades de pointes, sudden death; REMS-restricted	Baseline and periodic ECG and electrolytes; avoid concurrent QTc-prolonging drugs; full medication reconciliation
Selpercatinib (RET-positive)	Hypertension , ALT/AST elevation, QTc prolongation, edema; substantially better tolerability than cabozantinib/vandetanib	LFTs every 2 weeks for 3 months then monthly; baseline and periodic ECG; monitor TSH (rapid increase in athyreotic patients)
Dabrafenib + trametinib (BRAF V600E ATC)	Distinctive pyrexia syndrome; rash, fatigue, peripheral edema; rare cardiomyopathy	Corticosteroid management for pyrexia; baseline LVEF assessment
Levothyroxine	Reduced absorption with calcium, iron, antacids, PPIs, bile acid sequestrants	Empty stomach 30 to 60 min before other meds; separate from calcium/iron by at least 4 hours
TSH suppression (suprathreshold levothyroxine)	Increased AF risk (especially age 60+), osteoporosis, CV mortality at TSH <0.02 mIU/L	Match suppression to ATA risk category; relax targets for low-risk disease-free patients; DEXA monitoring
QTc-prolonging agents with vandetanib/selpercatinib	Compounded QTc prolongation risk (azithromycin, fluoroquinolones, antiarrhythmics, antipsychotics)	Full medication list review; ECG before initiation and at dose changes

ABBREVIATIONS: BP = blood pressure; AE = adverse event; HTN = hypertension; DTC = differentiated thyroid cancer; MTC = medullary thyroid cancer; QTc = corrected QT interval; REMS = Risk Evaluation and Mitigation Strategy; RET = rearranged during transfection (proto-oncogene); ALT = alanine aminotransferase; AST = aspartate aminotransferase; ECG = electrocardiogram; TSH = thyroid-stimulating hormone; ATC = anaplastic thyroid cancer; LVEF = left ventricular ejection fraction; PPI = proton pump inhibitor; AF = atrial fibrillation; CV = cardiovascular; ATA = American Thyroid Association; DEXA = dual-energy X-ray absorptiometry; CrCl = creatinine clearance; LFT = liver function test; BRAF = B-rapidly accelerated fibrosarcoma

***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

When to Refer

CRITERION ^{3,4,17,49}	SPECIALIST ^{3,4,17,49}	URGENCY ^{3,4,17,49}
Acute airway compromise from rapidly enlarging thyroid mass	Emergency department/ENT/ endocrine surgery	Emergent

CRITERION ^{3,4,17,49}	SPECIALIST ^{3,4,17,49}	URGENCY ^{3,4,17,49}
Post-thyroidectomy neck hematoma with respiratory distress	Emergency department/ surgical team on call	Emergent
Severe symptomatic hypocalcemia post-thyroidectomy	Emergency department/ endocrinology	Emergent
Suspected anaplastic thyroid cancer (rapidly growing fixed mass, Bethesda VI anaplastic)	Multidisciplinary oncology, surgery, and ENT	Urgent (same/next day)
Bethesda V or VI cytology	Endocrine surgery	Urgent (within 1 to 2 weeks)
Calcitonin >300 pg/mL or confirmed MTC	Endocrine surgery + medical oncology; genetics for RET	Urgent (within 1 to 2 weeks)
Suspicious cervical lymphadenopathy in nodule-positive patient	Endocrinology/ENT for FNA with Tg washout	Urgent (within 1 to 2 weeks)
Rising Tg or new TgAb post-thyroidectomy	Endocrinology	Urgent (within 2 to 4 weeks)
RAI-refractory progressive DTC	Medical oncology	Urgent (within 2 to 4 weeks)
Confirmed MTC or family history of MEN2	Genetics for RET germline testing	Urgent (within 2 to 4 weeks)
G-8 ≤14 or established frailty before treatment	Geriatric oncology/ comprehensive geriatric assessment	Urgent (before treatment cycle 1)
Bethesda III or IV cytology with size criteria met	Endocrinology for molecular testing or diagnostic lobectomy	Routine (within 4 to 6 weeks)
Patient on TKI with persistent fatigue	Endocrinology for ACTH stimulation testing	Routine
Elderly low-risk PTMC patient considering AS versus surgery	Endocrinology/endocrine surgery for shared decision-making	Routine
Hospice-eligible with advanced ATC or end-stage disease	Hospice (Medicare Hospice Benefit)	When goals align

ABBREVIATIONS: ENT = ear, nose, and throat; MTC = medullary thyroid cancer; RET = rearranged during transfection (proto-oncogene); FNA = fine-needle aspiration; Tg = thyroglobulin; TgAb = thyroglobulin antibody; RAI = radioactive iodine; DTC = differentiated thyroid cancer; MEN = multiple endocrine neoplasia; G-8 = Geriatric 8 screening; TKI = tyrosine kinase inhibitor; ACTH = adrenocorticotrophic hormone; PTMC = papillary thyroid microcarcinoma; AS = active surveillance; ATC = anaplastic thyroid cancer

Follow-Up Timing

STAGE/ CATEGORY ^{3,4,17,49}	FREQUENCY ^{3,4,17,49}	LABS/MONITORING ^{3,4,17,49}
Active surveillance: low-risk PTMC	Neck ultrasound every 6 months for 1 to 2 years, then annually	TSH every 6 to 12 months ; track tumor diameter and lymph nodes; re-evaluate if >3 mm growth or new LN involvement
Post-lobectomy, low-risk DTC, NED	TSH and clinical assessment every 6 to 12 months ; neck ultrasound at 6 to 12 months then risk-based	TSH normal range (not suppressed); Tg of limited utility post-lobectomy (residual lobe produces Tg)
Post-total thyroidectomy, low-risk DTC	TSH and Tg/TgAb every 6 to 12 months ; neck ultrasound at 6 to 12 months then risk-based	TSH target normal range for excellent response ; rising Tg or new TgAb → endocrinology referral
Post-total thyroidectomy, intermediate-risk DTC	TSH and Tg/TgAb every 6 months first year; neck ultrasound at 6 to 12 months	TSH 0.1 to 0.5 mIU/L first year ; reassess based on dynamic risk response
Post-total thyroidectomy + RAI, high-risk DTC	TSH and Tg/TgAb every 3 to 6 months first 2 years; neck ultrasound every 6 to 12 months ; whole-body RAI scan per nuclear medicine	TSH <0.1 mIU/L during initial surveillance ; relax if no recurrence; structural imaging if Tg trend rises
Post-total thyroidectomy: calcium monitoring	Calcium and intact PTH at 24 to 48 hours; weekly for 1 to 2 weeks; symptom-driven thereafter	Corrected Ca <7.5 mg/dL or PTH <10 pg/mL with symptoms warrants emergent management
MTC post-total thyroidectomy	Calcitonin and CEA every 3 to 6 months first 2 years; annually thereafter	Rising calcitonin/CEA triggers cross-sectional imaging; calcitonin doubling time predicts progression
On TKI (lenvatinib, sorafenib, selpercatinib, others)	Clinical visit every 2 to 4 weeks during induction; every 4 to 8 weeks once stable	Daily home BP ; urinalysis every 1 to 3 months; TSH/free T4 every 1 to 3 months; ECG and LFTs per agent-specific label
DEXA: postmenopausal women on long-term TSH suppression	At initiation of suppression; every 2 years per local guidelines	T-score ≤ -2.5 or fragility fracture triggers pharmacotherapy consideration

STAGE/ CATEGORY ^{3,4,17,49}	FREQUENCY ^{3,4,17,49}	LABS/MONITORING ^{3,4,17,49}
ABBREVIATIONS: PTMC = papillary thyroid microcarcinoma; TSH = thyroid-stimulating hormone; LN = lymph node; DTC = differentiated thyroid cancer; NED = no evidence of disease; Tg = thyroglobulin; TgAb = thyroglobulin antibody; RAI = radioactive iodine; PTH = parathyroid hormone; Ca = calcium; MTC = medullary thyroid cancer; CEA = carcinoembryonic antigen; TKI = tyrosine kinase inhibitor; BP = blood pressure; ECG = electrocardiogram; LFT = liver function test; DEXA = dual-energy X-ray absorptiometry		

Comorbidity Management — Primary Care Role

COMORBIDITY	APPROACH* ^{3,4,17,49}	CAUTION* ^{3,4,17,49}
Hypertension (I10)	Optimize antihypertensives before TKI; daily home BP monitoring after initiation	Lenvatinib hypertension emerges at median 2 weeks; sorafenib preferred when HTN uncontrolled
Osteoporosis (M81.0)	DEXA at TSH-suppression initiation and every 2 years; calcium and vitamin D supplementation	TSH suppression increases fracture risk in postmenopausal women; match suppression to ATA risk category
Atrial fibrillation (I48.x)	Baseline ECG; anticoagulation per CHA ₂ DS ₂ -VASc	TSH suppression elevates AF risk in patients 60+; warfarin patients require more frequent INR monitoring with levothyroxine changes
Cardiovascular disease (I25.x, I50.x)	Standard secondary prevention; cardio-oncology consult if TKI with preexisting CV disease	Lenvatinib: rare arterial thromboembolism; QTc-prolonging TKIs require ECG surveillance
Renal impairment (N18.x)	eGFR at baseline and during TKI; dose-adjust lenvatinib (14 mg daily for CrCl <30 mL/min)	Nephrotoxic agents compound lenvatinib proteinuria
Post-thyroidectomy hypoparathyroidism (E89.2)	Calcium + calcitriol supplementation; serial calcium and PTH monitoring	Permanent in 1-2% of total thyroidectomies; more consequential in elderly given fall risk
Depression (F32.x/F33.x)	PHQ-9 at baseline and during treatment; SSRI or psychotherapy as appropriate	TSH suppression associated with mood symptoms; prevalence inversely correlated with TSH level
Cognitive impairment	Document functional capacity; engage caregiver for medication management	Impairs adherence to levothyroxine timing and home BP protocols

COMORBIDITY	APPROACH* ^{3,4,17,49}	CAUTION* ^{3,4,17,49}
Polypharmacy	Medication reconciliation every visit ; pharmacist review before TKI initiation; deprescribing review	QTc-prolonging interactions; levothyroxine absorption interactions; warfarin/INR sensitivity
ABBREVIATIONS: TKI = tyrosine kinase inhibitor; BP = blood pressure; HTN = hypertension; DEXA = dual-energy X-ray absorptiometry; TSH = thyroid-stimulating hormone; ATA = American Thyroid Association; ECG = electrocardiogram; AF = atrial fibrillation; INR = international normalized ratio; CV = cardiovascular; QTc = corrected QT interval; eGFR = estimated glomerular filtration rate; CrCl = creatinine clearance; PTH = parathyroid hormone; PHQ-9 = Patient Health Questionnaire-9; SSRI = selective serotonin reuptake inhibitor *Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions		

Cost-Smart Options

BRAND (EST. COST)* ^{50,51}	GENERIC/ALTERNATIVE (EST. COST)* ^{44,52,53}	EST. SAVINGS	COST-SMART TIP ^{3,4,17,54}
Lenvima (lenvatinib) 24 mg/d (~\$17,000-\$18,000/mo)	No generic available (single-source brand)	Patient assistance variable	Manufacturer assistance program for eligible patients; median out-of-pocket \$32/mo for insured patients but maximum can reach \$12,538/mo ; confirm formulary tier with payer
Nexavar (sorafenib) 400 mg BID (~\$5,000-\$8,000/mo without insurance; ~\$15,000/mo total cost)	Generic sorafenib available (~\$1,500/mo)	~\$3,500-\$13,500/mo	Generic approved by FDA; use when available; lenvatinib preferred first-line per ASCO 2026 but sorafenib may be favored in patients with preexisting uncontrolled hypertension
Synthroid (levothyroxine) (~\$25-\$31/mo out-of-pocket)	Generic levothyroxine sodium (~\$2-\$10/mo)	~\$15-\$25/mo	Generic equally effective for achieving normal TSH ; monitor TSH if switching brands; 85% of US prescriptions now generic
Thyrogen (thyrotropin alfa) (~\$2,500/treatment course)	No generic available (single-source biologic)	—	Coordinate insurance prior authorization ; preferred over thyroid hormone withdrawal in elderly to avoid symptomatic hypothyroidism; cost-neutral from payer perspective when inpatient savings considered

BRAND (EST. COST)* ^{50,51}	GENERIC/ALTERNATIVE (EST. COST)* ^{44,52,53}	EST. SAVINGS	COST-SMART TIP ^{3,4,17,54}
Calcium + calcitriol post-thyroidectomy	Generic calcium carbonate + generic calcitriol (~\$5-\$15/mo)	Significant	Generics preferred ; counsel timing ≥4 hours apart from levothyroxine to avoid absorption interference
Total thyroidectomy (~\$9,000-\$29,000 90-day episode; median insurance reimbursement ~\$15,500)	Lobectomy for eligible patients (~\$7,800 90-day episode; ~\$2,700 less than TT)	~\$1,200-\$5,400 per episode + avoided lifelong LT4 in ~70%	When 1-4 cm tumor without high-risk features: lobectomy preferred per ATA 2025 ; ⁴ lower complication rates (7.6% vs 14.5% at high-volume centers); cost-effectiveness analyses consistently favor lobectomy
Routine RAI for all low-risk DTC	Selective RAI per ATA/NCCN risk stratification	Substantial	RAI not routinely recommended for low-risk T1-T2 N0; avoids TSH-withdrawal complications, hospitalization, and long-term suppression harms in elderly

ABBREVIATIONS: FDA = US Food and Drug Administration; ASCO = American Society of Clinical Oncology; TSH = thyroid-stimulating hormone; LT4 = levothyroxine; TT = total thyroidectomy; ATA = American Thyroid Association; RAI = radioactive iodine; DTC = differentiated thyroid cancer; NCCN = National Comprehensive Cancer Network

***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

Patient Education and Adherence

Thyroid cancer patient education is distinguished by the **generally excellent prognosis** (which can paradoxically **reduce adherence**), the lifelong medication requirement after total thyroidectomy, strict levothyroxine dosing rules that interact with common supplements and medications, and the **emerging option of active surveillance for low-risk microcarcinomas**, a concept unfamiliar to most patients who equate **any cancer diagnosis with immediate surgery**.⁴ **Education should emphasize:** what symptoms to report urgently (rapid nodule growth, new neck lump, voice change), why levothyroxine timing matters, and how TSH targets balance cancer control against cardiac and skeletal harms in older adults.



DOCUMENTATION — PATIENT EDUCATION

Document the following education topics, the patient and caregiver(s) present, materials provided, and patient understanding (**teach-back method**):

- **Diagnosis in plain language:** Document that the patient understands histologic subtype (papillary, follicular, medullary, anaplastic), tumor location, and stage; **clarify that most differentiated thyroid cancers** carry excellent long-term prognosis⁴
- **Treatment plan options:** Document **modalities discussed** (active surveillance vs. lobectomy vs. total thyroidectomy, RAI if applicable, systemic therapy if advanced); patient questions and preferences recorded
- **Levothyroxine dosing rules:** Document counseling on **empty-stomach administration** (30–60 min before breakfast); spacing ≥ 4 hours from calcium, iron, PPIs, and antacids; importance of consistent brand/generic use given narrow therapeutic index*⁵⁵
- **TSH suppression goals and harms:** Document **target TSH range by risk category**; counsel that over-suppression increases atrial fibrillation and osteoporosis risk, particularly in patients ≥ 60 and postmenopausal women^{1,4,17}
- **What to report between visits:** Rapid nodule or neck mass growth; new palpable lymph node; persistent voice change >2 weeks; **signs of hypocalcemia post-surgery** (numbness, tingling, muscle cramps)^{4,17}
- **Active surveillance protocol** (when applicable): Document counseling that **AS is guideline-endorsed for low-risk PTMC**; ultrasound schedule (q6 months $\times$ 1–2 years, then annually); triggers for surgical re-evaluation (growth ≥ 3 mm, new suspicious lymph node)^{4,17}
- **Home BP monitoring during TKI therapy** (when applicable): Document counseling on **daily BP checks** starting Day 1 of lenvatinib/sorafenib; when to contact clinic (SBP >160 or DBP >100)*⁵⁶
- **Advance care planning:** Surrogate designation, code status, goals of care; CPT 99497/99498 billable during AWW with no patient copay; particularly relevant when life expectancy shapes AS vs. surgery decision in elderly patients^{20,47}
- **Caregiver assessment:** Document caregiver present, their understanding of medication timing and surveillance schedule, and burden screening; refer to social work if strain identified^{20,47}

***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

Quality Metrics Tie-In

No thyroid cancer-specific HEDIS measures are currently active in MY2026, but thyroid cancer intersects multiple quality measurement domains: depression screening (PHQ-9), geriatric safety (fall risk, medication reconciliation), care transitions (post-thyroidectomy follow-up), blood

pressure control (TKI-induced hypertension), bone health (TSH suppression-related bone loss), and advance care planning. The **2026 MIPS Measure #406** (Appropriate Follow-Up Imaging for Incidental Thyroid Nodules) is a quality measure **directly tied to thyroid cancer workup**. Thyroid cancer's combination of lifelong levothyroxine management, TSH suppression-associated mood and skeletal effects, TKI polypharmacy in advanced disease (lenvatinib, sorafenib, calcium, vitamin D), post-thyroidectomy complications driving readmissions, and underrecognized psychological distress means that **cross-cutting national measures apply across the care trajectory** and can anchor quality reporting for any PCP managing a thyroid cancer patient in a value-based program.

MEASURE	STANDARD	APPLICABILITY TO THYROID CANCER
HEDIS COA: Care for Older Adults-Medication Review	Denominator: MA enrollees ≥66, continuously enrolled Numerator: 4 sub-measures documented annually: (1) functional status assessment, (2) medication review, (3) pain assessment, (4) advance care planning; Exclusions: hospice, ESRD	Levothyroxine dose optimization, calcium/vitamin D supplementation, and TKI management (lenvatinib, sorafenib) in advanced disease create interaction risk; medication review should reconcile TSH-suppressive dosing against cardiovascular and skeletal comorbidities
HEDIS COA: Care for Older Adults-Functional Status Assessment	Denominator: enrollees ≥66; Numerator: functional status assessment documented annually Exclusions: hospice, ESRD	ECOG performance status and G-8 geriatric screening directly satisfy this sub-measure ; document at every visit to guide AS vs surgery decisions in elderly low-risk patients
HEDIS TRC: Transitions of Care Patient	Denominator: enrollees ≥18 with inpatient discharge Numerator: 4 sub-measures within 30 days: (1) notification of inpatient admission, (2) receipt of discharge information, (3) patient engagement after discharge, (4) medication reconciliation post-discharge; Exclusions: hospice	Post-thyroidectomy readmission rate is 2.7% pooled (8.1% ED visit rate); ⁵⁷ hypocalcemia is the most common readmission driver; elderly patients (≥80 y) have 1.83x higher readmission odds; ⁵⁸ medication reconciliation critical for levothyroxine initiation and calcium/calcitriol dosing
HEDIS DMS-E: Utilization of the PHQ-9 to Monitor Depression Symptoms for Adolescents and Adults	Denominator: enrollees ≥12 with diagnosis of major depression or dysthymia AND elevated PHQ-9 ≥10 Numerator: follow-up PHQ-9 documented within 4-8 months of index elevated score Exclusions: hospice	Depression and anxiety are more prevalent in DTC survivors than controls (65.5% vs 15% depressive symptoms in one study); TSH suppression is positively correlated with depression severity ⁵⁹

MEASURE	STANDARD	APPLICABILITY TO THYROID CANCER
HEDIS ACP: Advance Care Planning	Denominator: enrollees ≥ 66 ; Numerator: advance care plan or surrogate decision-maker documented, OR documentation that ACP was discussed but patient declined; Exclusions: hospice	ACP should be addressed when life expectancy shapes AS vs surgery decisions in elderly low-risk PTMC; billable as CPT 99497/99498 during AWW with no copay
HEDIS PCR: Plan All-Cause Readmission	Denominator: enrollees ≥ 18 with acute inpatient discharge; Numerator: unplanned readmission within 30 days (lower is better) Exclusions: planned readmissions (maintenance chemotherapy, transplant), hospice, psychiatric	Thyroidectomy complications (hemorrhage, hypocalcemia, RLN injury) drive readmissions in elderly; patients ≥ 65 have 2.61 $\times$ higher odds of general postoperative complications; PCP post-discharge follow-up within 7 days reduces readmission risk
HEDIS CBP: Controlling High Blood Pressure	Denominator: adults 18–85 with hypertension Numerator: BP 140/90 mmHg Exclusions: hospice, ESRD, inpatient palliative care	Directly relevant during lenvatinib/sorafenib therapy : all-grade hypertension incidence is 50% with lenvatinib (grade ≥ 3 : 14%);* hypertension onset occurs within days of TKI initiation; preexisting uncontrolled hypertension may favor sorafenib over lenvatinib ⁶⁰
HEDIS OMW: Osteoporosis Management in Women Who Had a Fracture	Denominator: women 67–85 with fracture Numerator: BMD testing or osteoporosis pharmacotherapy within 6 months	Long-term TSH suppression is deleterious to bone mass in postmenopausal women; ⁴¹ BMD is significantly lower after >2 years of suppressive therapy; NCCN recommends adequate calcium and vitamin D intake for all patients on TSH suppression ¹⁷
MIPS # 406: Appropriate Follow-up Imaging for Incidental Thyroid Nodules in Patients	Denominator: patient ≥ 18 with incidental thyroid nodule < 1.0 cm noted in report Numerator: no inappropriate follow-up imaging recommended (inverse measure)	Directly tied to thyroid cancer workup; ensures PCPs do not order unnecessary follow-up imaging for sub-centimeter incidental nodules that do not meet biopsy thresholds

MEASURE	STANDARD	APPLICABILITY TO THYROID CANCER
ABBREVIATIONS: MA = Medicare Advantage; ESRD = end-stage renal disease; TKI = tyrosine kinase inhibitor; TSH = thyroid-stimulating hormone; ECOG = Eastern Cooperative Oncology Group; G-8 = Geriatric 8 screening; AS = active surveillance; ED = emergency department; PHQ-9 = Patient Health Questionnaire-9; DTC = differentiated thyroid cancer; ACP = advance care planning; PTMC = papillary thyroid microcarcinoma; AWW = Annual Wellness Visit; CPT = Current Procedural Terminology; RLN = recurrent laryngeal nerve; PCP = primary care physician; BP = blood pressure; BMD = bone mineral density; NCCN = National Comprehensive Cancer Network; MIPS = Merit-based Incentive Payment System; SDoH = social determinants of health; HEDIS = Healthcare Effectiveness Data and Information Set; FDA = US Food and Drug Administration *Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions		



QUALITY OUTCOME

When primary care identifies **concerning thyroid nodules through routine palpation**, orders **risk-stratified ultrasound and FNA** within appropriate thresholds, **advocates for active surveillance** in elderly patients with low-risk PTMC, **supports lobectomy over total thyroidectomy** when clinically appropriate, **calibrates TSH suppression** to ATA risk category, and proactively monitors during systemic therapy, **patients receive the right treatment at the right intensity** with substantially lower morbidity than reflexive aggressive management.^{1,3,4} **Quality outcomes** follow naturally from delivering and documenting the care the clinical picture demands: **they are consequences of good care**, not separate goals.

5 CODING REMINDERS AND CASE EXAMPLES

Coding Specificity

ELEMENT	DOCUMENTATION REQUIREMENT
Primary thyroid malignancy (C73)	State ' malignant neoplasm ' or ' carcinoma ' explicitly, not 'nodule,' 'mass,' or 'consistent with malignancy.'; definitive language to assign C73
Histologic subtype (papillary, follicular, medullary, anaplastic)	Document the subtype in the clinical record: C73 is the only available ICD-10 code , but subtype drives treatment selection, staging accuracy, and medical necessity ^{1,17}
AJCC 8th Edition stage and stage type	Document cTNM (clinical), pTNM (pathologic), or ypTNM (post-neoadjuvant) explicitly ; age 55 cutoff applies to DTC staging
2025 ATA risk category and dynamic risk response	Document low/intermediate/high risk at diagnosis; dynamic risk response category (excellent/indeterminate/biochemically incomplete/structurally incomplete) at each surveillance visit

ELEMENT	DOCUMENTATION REQUIREMENT
Each metastatic site coded separately	C77.0 (cervical LN); C78.01/02 (lung, with laterality); C79.51 (bone); C79.31 (brain); each documented site supports clinical complexity
Sequencing: C73 first, then metastatic sites	Primary site code C73 sequenced first, followed by secondary site code(s) C77.0, C78.0x, C79.51, C79.31
Active surveillance status	Document ' C73, active surveillance ' explicitly; do not transition to Z85.850 unless definitive treatment has occurred with no active disease
Post-treatment, no active disease	Use Z85.850 (personal history of malignant neoplasm of thyroid) ONLY after definitive treatment with no active disease and no ongoing surveillance for known disease ²⁹
Post-thyroidectomy complications	E89.0 (post-procedural hypothyroidism) = distinguish from E03.x ; E89.2 (post-procedural hypoparathyroidism) = document calcium/PTH monitoring
Family history	Z80.8 (family history of malignant neoplasm of other organs/systems) when first-degree family history of thyroid cancer supports screening rationale
Comorbidities = frequently undercoded	Hypertension (I10), osteoporosis (M81.0), atrial fibrillation (I48.x), depression (F32.x , F33.x), polypharmacy (Z79.84 long-term medication; specific medication codes)
ABBREVIATIONS: AJCC = American Joint Committee on Cancer; ATA = American Thyroid Association; DTC = differentiated thyroid cancer; cTNM = clinical tumor-node-metastasis stage; pTNM = pathologic tumor-node-metastasis stage; ypTNM = post-neoadjuvant pathologic tumor-node-metastasis stage; ICD-10 = International Classification of Diseases, 10th Revision; LN = lymph node; PTH = parathyroid hormone	

Annual Clinical Review and Confirmation

- **Annual review:** Active thyroid cancer must be **reassessed annually** with MEAT documented; in patients on **active surveillance** or under **post-treatment surveillance** for known disease, the diagnosis **remains current** and requires ongoing documentation **each year**
- **Visit modality:** Face-to-face **or** synchronous audio-video telehealth qualifies when it supports meaningful clinical evaluation; chart updates without an encounter **do not satisfy MEAT**
- **Clinical context:** Under CMS-HCC V28, active thyroid malignancy maps to **HCC 23**;^{12,13} each separately documented metastatic site supports **additional HCC mapping**
- **Avoid rollover:** **Do not** copy forward last year's note without updating treatment status, current line of therapy and cycle if on systemic therapy, **current 2025 ATA risk category**

and dynamic risk response, surveillance results (ultrasound, Tg, TgAb, calcitonin where relevant), and the comorbidity burden

Good Documentation — EHR Tips

EHR TIP	WHAT TO INCLUDE
Problem list precision	'Papillary thyroid carcinoma, right lobe (C73), pT2N0M0 Stage I (age <55), 2025 ATA low risk, post-lobectomy, NED' not 'thyroid cancer'
Smart phrases/dot phrases	Build macros for FNA Result Documentation (Bethesda category + size + location) ; Active Surveillance Encounter (ultrasound date, tumor diameter, LN status, growth trajectory); TKI Monitoring Visit (BP, urinalysis, TSH, ECG when applicable)
Lab and imaging linking	Link FNA pathology, neck ultrasound, Tg, TgAb, calcitonin (MTC) results to the active C73 problem
Active vs. surveillance status	Use a status field at the top of every note : 'Active surveillance, ultrasound q6 mo' vs. 'Post-treatment surveillance, Y2 month 6' vs. 'Active systemic therapy, lenvatinib cycle 3'
Surveillance flags	Recurring reminders for : AS ultrasound intervals (q6 mo → annually), post-thyroidectomy Tg/TgAb intervals, MTC calcitonin/CEA monitoring, DEXA scheduling for postmenopausal women on TSH suppression
Risk category and dynamic response fields	Discrete fields for 2025 ATA risk category (low/intermediate/high) and dynamic risk response (excellent/indeterminate/biochemically incomplete/structurally incomplete)
Levothyroxine adherence templates	Counseling templates emphasizing : empty-stomach dosing, timing relative to calcium/iron/PPIs, narrow therapeutic window if brand switching
Education/teach-back templates	Templates so diagnosis, plan, levothyroxine rules, TSH target, surveillance schedule, and advance care planning are documented as patient-understood

ABBREVIATIONS: EHR = electronic health record; ATA = American Thyroid Association; NED = no evidence of disease; FNA = fine-needle aspiration; LN = lymph node; TKI = tyrosine kinase inhibitor; BP = blood pressure; TSH = thyroid-stimulating hormone; ECG = electrocardiogram; Tg = thyroglobulin; TgAb = thyroglobulin antibody; MTC = medullary thyroid carcinoma; AS = active surveillance; CEA = carcinoembryonic antigen; DEXA = dual-energy X-ray absorptiometry; PPI = proton pump inhibitor

Brief Case Examples

SUCCESS: COMPREHENSIVE DOCUMENTATION

SCENARIO

A 71-year-old female; routine AWW; firm 1.2 cm right thyroid nodule on palpation; no alarm symptoms; G-8 score 14; PMH hypertension, osteoporosis.

Documentation: "Palpable right thyroid nodule on AWW; neck ultrasound ordered with **ACR TI-RADS classification. TSH 1.8 mIU/L.** Ultrasound: 1.2 cm hypoechoic solid nodule with microcalcifications and irregular margins, TR5 (highly suspicious). FNA biopsy under ultrasound guidance per ATA 2025 thresholds. **Bethesda VI**, papillary thyroid carcinoma confirmed on pathology (**C73**). Referred to endocrine surgery. Shared decision-making documented; **lobectomy elected** per ATA 2025 (tumor ≤ 4 cm, no ETE, no nodal disease). Pathology: 1.4 cm classical PTC, margins clear, **pT1bN0M0, Stage I** (age <55). ATA low-risk. Levothyroxine 75 mcg; TSH target normal range; surveillance ultrasound at 12 months. CPT 99497 advance care planning completed."

Outcome: C73 supported with histologic confirmation and AJCC staging;¹⁹ ATA risk stratification documented;⁴ **lobectomy rationale auditable** (tumor size, absence of ETE/nodal disease); post-operative surveillance plan with TSH target and imaging interval specified; ACP integrated per AWW. **Every MEAT element present:** pathology with subtype, imaging with TI-RADS, treatment rationale, coded diagnosis, follow-up interval.

PITFALL: INSUFFICIENT DOCUMENTATION

Documentation as written: "68-year-old female with thyroid mass. Started on levothyroxine. Z85.850 (personal history of thyroid cancer) added to problem list."

Consequence: "Thyroid mass" is **insufficient:** cannot assign C73 without histologic confirmation. **Z85.850 is incorrect:** patient has confirmed papillary microcarcinoma under active surveillance, not completed treatment with no active disease. No histologic subtype, no staging, no surveillance plan documented.

RAF Impact: Active thyroid malignancy (**HCC 23**, CNA RAF **0.186**) lost because C73 not assigned. If metastatic disease were present, **missing C78.0x** (**HCC 17**, RAF **4.209**) would further understate complexity.

Fix: "Papillary thyroid microcarcinoma confirmed on FNA (**Bethesda VI**); **C73**, active disease under active surveillance per ATA 2025 and NCCN v1.2026. **Remove Z85.850;** patient has active disease under monitoring. Ultrasound q6 mo $\times$ 1–2 yr then annually. Z85.850 applies **ONLY** after definitive treatment with no structural or biochemical disease." Coding after fix: **C73** ($\rightarrow$ **HCC 23**) with surveillance plan and histologic confirmation = **specificity preserved**.

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