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Low Risk for Recurrence of Differentiated Thyroid Cancer: A Paradigm Shift to De-Escalation and Simplifying Care for Long Term Follow-up

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The incidence of thyroid cancer in Canada increased from 1984 to 2013, followed by a subsequent decline; the most recent projections estimate 6,100 cases in 2026.[1] Low-risk differentiated thyroid cancer (DTC), with an excellent treatment response, is associated with a recurrence risk of less than 2% and a 20-year disease specific mortality of less than 1%.[2] In alignment with the 2025 American Thyroid Association DTC Guidelines and the Follow-up and Transition of Care for Low Recurrence Risk Thyroid Cancer Patients in Canada, thyroid cancer care is undergoing a major evolution.[2,3] This shift is centred around de-escalation of care, and for the first time, provides guidance on when to consider cessation of surveillance. For patients who have undergone hemithyroidectomy, recommended follow-up includes a one-time post-operative measurement of thyroglobulin (TG) with thyroglobulin antibodies (TGAB), annual thyroid-stimulating hormone (TSH) monitoring (targeted within the reference range), and ultrasound surveillance at 1–3 years. Consideration may then be given to cessation of all monitoring after 5–8-years. For patients undergoing total thyroidectomy (TT) without radioactive iodine (RAI), the new target for a biochemical excellent response is <2.5 ng/mL as well as a TSH level within the normal reference range.

In this population, ultrasound is recommended at 1–3-year intervals following the initial assessment, with consideration of discontinuation between years 5–8 in patients demonstrating an excellent response; Canadian guidelines also recommend cessation of surveillance at year 5. Furthermore, for patients undergoing TT with or without RAI who maintain an excellent response, continued biochemical monitoring beyond 10–15 years is not required. Key elements of care for patients with low-risk thyroid cancer include reduced ultrasound surveillance, maintaining the TSH target within the normal reference range, annual TG/TGAB monitoring, and consideration of cessation of surveillance. Adoption of these principles will enhance patient care while maintaining excellent outcomes.

Introduction

The incidence of thyroid cancer in Canada increased from 1984 to 2013, followed by a subsequent decline, with the most recent projections estimating 6,100 new cases in 2026.[1] Differentiated thyroid cancer (DTC) is the most common subtype, which is further classified into low, low-intermediate, intermediate, intermediate-high, and high risk categories according to the 2025 American Thyroid Association (ATA) DTC Guidelines.[2] Low-risk DTC with an excellent treatment response is associated with an estimated risk of recurrence of less than 2% and a 20-year disease specific mortality of less than 1%.[2] This article focuses on the long term follow-up of patients with low-risk recurrence DTC who have an excellent response to therapy.

According to the ATA 2025 DTC Guidelines, low-risk DTC is defined as unifocal tumours measuring ≤4 cm with ≤5 lymph nodes (LNs) each ≤2 mm and negative margins or only microscopically positive anterior margins (R1).[2] Specifically for follicular thyroid carcinoma and invasive encapsulated follicular variant of papillary thyroid carcinoma, tumours with capsular invasion alone are also regarded as low risk.[2] In papillary thyroid carcinomas ≤2 cm with a *BRAF* mutation may be considered low risk in the absence of other mutations, vascular invasion, or aggressive histologic features.[2] The absence of local or distant metastases, as well as the absence of radioactive iodine (RAI)-avid foci outside the thyroid bed on post treatment, and whole body RAI scanning, is classified as low risk. A recent Canadian Guideline also noted that lymph node metastases measuring <5 mm without extranodal extension can also confer a low-risk of recurrence, whereas others have identified a cutoff of 4 mm for defining low-risk recurrence; however, the evidence is mixed. A study proposed a low-risk of recurrence cutoff of 4 mm, and another identified LN size of >5.4 mm as a predictor of a structurally incomplete response.[3-5] Thus, defining low-risk disease as involvement of <5 LNs with a size cut off of <5 mm in the central neck may broaden the population of patients with DTCs categorized as low-risk for recurrence.[3]

In alignment with the 2025 ATA DTC Guidelines and the Follow-up and Transition of care for Low Recurrence Risk Thyroid Cancer Patients in Canada, cancer care is undergoing a notable evolution.[2,3] The core theme of this shift is centred around the de-escalation of care, including, for the first time, providing guidance on when to consider cessation of surveillance. Patients with low-risk DTC can be further subdivided into patients who undergo hemithyroidectomy (HT), and those treated with total thyroidectomy (TT), with or without RAI.[2,3]

Hemithyroidectomy Follow-up

Follow-up after hemithyroidectomy (HT) or lobectomy in patients with low-risk DTC has been variable.[6,7] Most recent guidelines provide clarity in terms of TSH targets, thyroglobulin (TG) and thyroglobulin antibody (TGAB) monitoring, and the appropriate frequency of ultrasound surveillance.[2,3] For patients with T1 tumours (< 2cm), HT is preferred, while with unilateral T2 tumours (2–4 cm), either HT or TT can be considered.[2]

Historically, there has been a lack of clarity about the role of TG and TGAB monitoring following HT.[6] The 2025 ATA DTC Guidelines and the Canadian consensus statement have both reinforced that serum TG levels do not predict recurrence in patients treated with HT.2,3[2,3] A systematic review comprising 37 studies similarly reported that TG measurement lacks accuracy for detecting DTC recurrence.[8] However, it is recommended that a baseline post-operative TG and TGAB level should be obtained to ensure values are not unexpectedly elevated

Hemithyroidectomy Targets	ATA DTC 2025	Canadian Consensus Guidelines
TG and TGAB	• No Target • Assess TG and TGAB at 6–12 weeks post surgery to ensure not metastatic.	• No Target • Assess TG and TGAB once post-operatively. Consider further imaging if TG >100 ng/mL
TSH Target	• TSH within the normal laboratory reference range.	• TSH within the normal laboratory reference range.
Ultrasound Surveillance	• **Neck U/S:** Perform at 6–12 months post-operatively. If clear, continue every 1–3 years for 5–8 years.	• **Neck U/S:** Perform at 6–12 months post-operatively. If clear, perform a repeat exam at 3–5 years, with either discontinuation or continued monitoring at 5-year intervals.
Cessation of All Surveillance	• **TSH:** Annual monitoring (no end date) • **TG/TGAB:** Not applicable • **U/S:** Discontinue between years 5–8. Follow contralateral nodules as per ATA Thyroid Nodule guidelines.	• **TSH:** Annual monitoring (no end date) • **TG/TGAB:** Not Applicable • **U/S:** Consider every 5 years (no end date) or as determined by nodule findings.

Table 1: Long Term Follow-up of Low-Risk DTC Patients who Undergo Hemithyroidectomy Who Demonstrate an Excellent Response; *courtesy of Shivraj Singh Riar, MB, BCh, BAO, FRCP(C) Endocrinology and Metabolism.*

Abbreviations: ATA: American Thyroid Association; **DTC:** differentiated thyroid cancer; **TG:** thyroglobulin; **TGAB:** thyroglobulin with thyroglobulin antibodies; **TSH:** thyroid-stimulating hormone; **U/S:** ultrasound

(TG >100 ng/mL), which should prompt further investigation.[3] An elevation in TGAB levels has also not been shown to predict recurrence in patients who undergo HT, thus serial monitoring of these levels is not recommended.[2] Accordingly, a single post-operative assessment of TG and TGAB levels should suffice when these criteria are met.

Optimal TSH targets in patients with low-risk DTC have been evaluated in several studies. The 2015 ATA guidelines previously recommended a TSH target of 0.5–2 mIU/L for all low-risk patients with an excellent response to treatment.[9] However, a randomized controlled trial has shown no significant difference in disease-free survival between patients with a normal TSH level (TSH 0.4–5 mIU/L) and the cohort with suppressed TSH levels.[10] Additionally, two large retrospective studies reported no association between mean TSH levels and the risk of recurrence following HT.[11,12] TSH targets are particularly relevant in these patients, as a primary rationale for selecting HT is to avoid thyroid hormone replacement. Prior studies have shown that when TSH is maintained within the normal reference range, approximately 70–80% of patients avoid the need for thyroid hormone replacement, compared with only 20–30% when targeting a narrower TSH range of 0.5–2 mIU/L.[2] From a practical standpoint, achieving stricter TSH targets may also be challenging, with one study reporting that only 29% of patients were able to meet the targets outlined in the 2015 ATA DTC guidelines.[13]

For ultrasound monitoring, an assessment should be performed at 6–12 months post HT.[2,3] In the absence of suspicious lesions or nodules, Canadian guidelines suggest that a subsequent ultrasound at 3–5 years is reasonable, with further imaging at 5-year intervals based on patient preference.[3] The ATA guidelines recommend a somewhat more intensive follow-up initially, with ultrasound at 1–3 year intervals, though only for a duration of 5–8 years as a good practice statement.[3] Overall, there is no strong evidence to recommend one practice over another; however, both guidelines recommend discontinuing routine ultrasound surveillance after 5–8-years.[2,3] Tailoring follow-up to individual patients, depending upon resource availability and patient preferences, is therefore reasonable. Notably, these guidelines recommend, for the first time, clear guidance on when to discontinue monitoring patients with low-risk DTC following HT.[2,3] Transition to primary care can also be considered at year 2 post HT3 (**Table 1**).

In patients who have undergone HT, follow-up may include a one-time post-operative

measurement of TG with TGAB, annual TSH monitoring (targeting within the reference range), and ultrasound surveillance at 1–3 years. In the absence of concerning findings, discussion of cessation of all monitoring at the 5–8-year mark is reasonable.

Total Thyroidectomy With and Without Rai Follow-up

Remnant ablation with RAI is not routinely offered for patients with low-risk DTC; thus, the historical targets for TG and TSH have been extrapolated from cohorts undergoing RAI with total thyroidectomy.[9] TT is recommended in the context of pathological features on fine needle aspiration, patient preference, completion in the context of findings post HT, thyroid nodularity, and age.[2] RAI usage in patients with low-risk DTC has evolved, with accumulating evidence showing a lack of benefit. In studies with approximately 10 years of follow-up, RAI offered no benefit for disease-free survival in patients with low-risk disease, thus, the use of RAI in these patients is limited.[14]

Initial TG and TGAB should be assessed 6–12 weeks post surgical intervention to evaluate biochemical response.[2,3] The 2015 ATA guidelines defined an excellent biochemical response in patients who underwent TT without RAI as a TG level of <0.2 ng/mL in the presence of negative TGAB.[9] Practically speaking, some patients would demonstrate an indeterminate or biochemically incomplete response according to the older definition.[9] Subsequent evidence, including a meta-analysis, has shown that patients with TG levels between 1–2.5 ng/mL with negative TGAB while on levothyroxine therapy remained at low risk for persistent or metastatic disease.[8] Accordingly, updated guidance has revised the threshold for a biochemical excellent response to <2.5 ng/mL in patients undergoing TT without RAI[2,3] (**Table 2**). In contrast, for patients having undergone TT with RAI, the threshold for a biochemical excellent response remains TG <0.2 ng/mL2,3 (**Table 3**).

Ultrasound is recommended at 6–12-month intervals post-operatively.[2,3] In the absence of suspicious findings, ultrasound monitoring thereafter has varied in clinical practice. Notably, routine ultrasound in this population can increase the risk of false positive findings without improving the identification of clinically significant disease.[15] Although the recurrence risk is low, the majority of recurrences occur within the first 5 years following intervention in patients with low-risk DTC.[2] Studies have shown that recurrence is rarely identified earlier than 3 years post-operatively, supporting less intensive surveillance strategies. Accordingly, current recommendations advise ultrasound at 1–3-year intervals after the initial examination, with consideration of discontinuation between years 5–8.[2] Similarly Canadian guidelines recommend cessation of ultrasound monitoring at year 5.[3] Collectively, these updated recommendations reflect a shift toward de-escalated, risk-adapted follow-up in patients with an excellent response to therapy.

A TSH target within the normal reference range represents one of the most revolutionizing recommendations introduced in the 2025 ATA DTC guidelines for patients demonstrating an excellent response to therapy. Although the Canadian guidelines recommend a narrower TSH target of 0.5–2 mIU/L, partially reflecting their publication before the 2025 ATA update, the ATA now indicates that there is insufficient evidence to support TSH suppression in patients with low-risk disease.2 Even among patients with intermediate- to high- risk disease, the utility of TSH suppression remains uncertain. For example, a study involving 867 patients has shown no association between TSH suppression and progression free survival at 5 years.[16] Given these findings, the low likelihood of recurrence, low mortality, and the goal of reducing treatment burden, it is reasonable to maintain TSH within the normal reference range in these patients. Furthermore, even in patients with low-risk DTC who demonstrate an indeterminate response, such as nonspecific ultrasound findings, non-stimulated TG levels of 0.2–1ng/mL following TT with RAI, or TG levels of 2.5–5 ng/mL following TT without RAI, the recommended TSH target remains within the normal reference range.[2] One of the key takeaways from the recent guidelines is that in the absence of confirmed biochemical or structural recurrence, TSH suppression is not required. This simplified approach is crucial for the long-term follow-up of patients with low-risk DTC.[2] The key for managing indeterminate findings is longitudinal monitoring. Over time, these findings will either become relevant for intervention or resolve without clinical consequence in low-risk patients, supporting a conservative, risk-adapted strategy.[2]

The 2025 ATA guidelines introduce, for the first time, explicit recommendations regarding the cessation of surveillance in patients with low-risk

Total Thyroidectomy Without RAI Targets	ATA DTC 2025	Canadian Consensus Guidelines
TG and TGAB	• Non-stimulated TG <2.5 ng/mL with negative TGAB and no evidence of disease on imaging: Excellent Response. • Annual monitoring of TG/TGAB.	• Non-stimulated TG <2.5 ng/mL with negative TGAB and no evidence of disease on imaging: Excellent Response. • Annual monitoring of TG/TGAB.
TSH Target	• TSH within the normal laboratory reference range: • Annual monitoring of TSH.	• TSH within the normal laboratory reference range: • Annual monitoring of TSH.
Ultrasound Surveillance	• **Neck U/S:** Perform at 1–3 years for 5–8 years with discontinuation after unless changes are observed in TG or TGAB levels.	• **Neck U/S:** Perform within the first 2 years post-operatively, followed by a repeat exam at 3–5 years.
Cessation of ALL Surveillance	• Consider at 10–15 years.	• **TSH:** Annual monitoring (no end date) • **TG/TGAB:** Discontinue at 10 years. • **U/S:** Consider discontinuation at 5 years.

Table 2. Long Term Follow-up for Low-Risk DTC Patients who Undergo Total Thyroidectomy without RAI with and Demonstrate an Excellent Response; *courtesy of Shivraj Singh Riar, MB, BCh, BAO, FRCP(C) Endocrinology and Metabolism.*

Abbreviations: ATA: American Thyroid Association; **DTC:** differentiated thyroid cancer; **RAI:** radioactive iodine; **TG:** thyroglobulin; **TGAB:** thyroglobulin with thyroglobulin antibodies; **TSH**: thyroid-stimulating hormone; **U/S:** ultrasound

Total Thyroidectomy With RAI Targets	ATA DTC 2025	Canadian Consensus Guidelines
TG and TGAB	• Non-stimulated TG <0.2 ng/mL with negative TGAB and no evidence of disease on imaging: Excellent Response.	• Non-stimulated TG <0.2 ng/mL with negative TGAB and no evidence of disease on imaging: Excellent Response.
TSH Target	• TSH within the normal laboratory reference range.	• **TSH level:** 0.5-2 mIU/L
Ultrasound Surveillance	• **Neck U/S:** Perform at 1–3 years for 5–8 years with discontinuation after unless changes are observed in TG or TGAB levels.	• **Neck U/S:** Perform within first 2 years post-operatively, followed by a repeat exam at 3–5 years.
Cessation of ALL Surveillance	• Consider at 10–15 years	• **TSH:** Annual monitoring (no end date) • **TG/TGAB:** Discontinue at 10 years. • **U/S:** Consider discontinuation at 5 years.

Table 3. Long Term Follow-up for Low-Risk DTC Patients who Undergo Total Thyroidectomy with RAI with and Demonstrate an Excellent Response; *courtesy of Shivraj Singh Riar, MB, BCh, BAO, FRCP(C) Endocrinology and Metabolism.*

Abbreviations: ATA: American Thyroid Association; **DTC:** differentiated thyroid cancer; **RAI:** radioactive iodine; **TG:** thyroglobulin; **TGAB:** thyroglobulin with thyroglobulin antibodies; **TSH:** thyroid-stimulating hormone; **U/S:** ultrasound

DTC. A good practice statement noted that patients with an ongoing excellent response at 10–15 years do not require continued biochemical monitoring.[2] This guidance provides an integral insight for primary care and specialists on when it may be appropriate to discontinue surveillance in these patients.

Key elements of contemporary management for patients with low-risk thyroid cancer include decreased ultrasound surveillance, maintaining the TSH target within the normal reference range, annual monitoring of TG/TGAB, and consideration of cessation of surveillance. Together, these principles are important landmarks in the evolution toward a de-escalated, risk-adapted approach to low-risk for recurrence thyroid cancer care.

Transition and Cessation of Care/Conclusion

Another important contribution of both the Canadian and 2025 ATA DTC guidelines is the provision of recommendations on the transition to primary care and when to consider cessation of follow-up.[2,3] The Canadian guidelines recommend transition of primary care between years 2–5.[3] For patients who maintain an excellent response following HT or TT with or without RAI, transfer to primary care can be considered at year 2.[3] For patients with an ongoing indeterminate response, along with stable TG levels, or declining TGAB levels following TT with or without RAI, indeterminate lesion findings on ultrasound, or nonspecific thyroid bed lesions representing benign etiology, transition to primary care can be considered between years 3–5.[3] As with other guidance, decisions regarding transition should be individualized, taking into account patient-specific factors and the comfort level of the primary care provider, particularly given that earlier transition to primary care is a novel concept. Thus, practically speaking, engaging patients in shared decision-making rather than having strict criteria may be a more appropriate course of action. The guidance on this transition will aid and hopefully empower primary care providers to take a more central role, especially in the context of simplified monitoring as noted above.

Cessation of surveillance is likely to remain a topic of ongoing debate, given the potential for late recurrence, although the likelihood of this is very low in patients with low-risk disease.[2] Current guidance, which suggests consideration of discontinuation of surveillance at 10–15-years (**Tables 2 and 3**) and at 5–8 years (**Table 1**) based upon initial surgical management provides greater confidence for implementation in clinical practice.[2] In practice, patient-specific factors should continue to be considered in decision-making; however, the adoption of cessation strategies has the potential to reduce unnecessarily long term follow-up and associated healthcare costs in patients with low-risk disease.[17]

The Canadian and 2025 ATA DTC guidelines support a transition away from lifelong specialist follow-up in patients with stable low-risk disease. Key components of these recommendations include reduced emphasis on TSH targeting, decreased frequency of imaging, and the introduction of defined points at which surveillance can be discontinued. For most patients with low-risk DTC who achieve an excellent response to therapy, prolonged intensive follow-up is unnecessary. Adoption of these principles will enhance patient care while maintaining excellent outcomes.

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References

1. Brenner DR, Gillis J, Demers AA, Ellison LF, Ng C, Zhang SX, et al. Projected estimates of cancer in Canada in 2026. CMAJ. 2026;198(14):E526-E534. doi:10.1503/cmaj.252152
2. Ringel MD, Sosa JA, Baloch Z, Bischoff L, Bloom G, Brent GA, et al. 2025 American Thyroid Association management guidelines for adult patients with differentiated thyroid cancer. Thyroid. 2025;35(8):841-985. doi:10.1177/10507256251363120
3. Paschke R, Ghaznavi S, Imran SA, Jacquier J, Lochnan H, Massicotte MH, et al. Follow-up and transition of care for low recurrence risk thyroid cancer patients in Canada. Eur Thyroid J. 2025;14(4):e250072. doi:10.1530/ETJ-25-0072
4. Deng Y, Zhu G, Ouyang W, Pan L, Feng H, Wu J, et al. Size of the largest metastatic focus to the lymph node is associated with incomplete response in pN1 papillary thyroid carcinoma. Endocr Pract. 2019;25(9):887-898. doi:10.4158/EP-2018-0583
5. Xie J, Chen P, Wang J, Luo X, Luo J, Xiong X, et al. Incorporating size of lymph node metastatis focus and pre-ablation stimulated Tg could more effectively predict clinical outcomes in differentiated thyroid cancer patients without distant metastases. Front Endocrinol (Lausanne). 2023;14:1094339 doi:10.3389/fendo.2023.1094339. Erratum in: Front Endocrinol (Lausanne). 2023;14:1221004. doi: 10.3389/fendo.2023.1221004
6. Park S, Jeon MJ, Oh HS, Lee YM, Sung TY, Han M, et al. Changes in serum thyroglobulin levels after lobectomy in patients with low-risk papillary thyroid cancer. Thyroid. 2018;28(8):997-1003. doi:10.1089/thy.2018.0046
7. Ritter A, Mizrachi A, Bachar G, Vainer I, Shimon I, Hirsch D. Detecting recurrence following lobectomy for thyroid cancer: role of thyroglobulin and thyroglobulin antibodies. J Clin Endocrinol Metab. 2020;105(6):dgaa152. doi:10.1210/clinem/dgaa152
8. Chou R, Dana T, Brent GA, Goldner W, Haymart M, Leung AM, et al. Serum thyroglobulin measurement following surgery without radioactive iodine for differentiated thyroid cancer: a systematic review. Thyroid. 2022;32(6):613-639. doi:10.1089/thy.2021.0666
9. Haugen BR, Alexander EK, Bible KC, Doherty GM, Mandel SJ, Nikiforov YE, 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):1-133. doi:10.1089/thy.2015.0020
10. Sugitani I, Fujimoto Y. Does postoperative thyrotropin suppression therapy truly decrease recurrence in papillary thyroid carcinoma? A randomized controlled trial. J Clin Endocrinol Metab. 2010;95(10):4576-4583. doi:10.1210/jc.2010-0161
11. Xu S, Huang Y, Huang H, Zhang L, Qian J, Wang X, et al. Optimal serum thyrotropin level for patients with papillary thyroid carcinoma after lobectomy. Thyroid. 2022;32(2):138-144. doi:10.1089/thy.2021.0404
12. Lee MC, Kim MJ, Choi HS, Cho SW, Lee GH, Park YJ, et al. Postoperative thyroid-stimulating hormone levels did not affect recurrence after thyroid lobectomy in patients with papillary thyroid cancer. Endocrinol Metab (Seoul). 2019;34(2):150-157. doi:10.3803/EnM.2019.34.2.150
13. Yavuz DG, Yazan CD, Hekimsoy Z, Aydin K, Gokkaya N, Ersoy C, et al. Assessment of attainment of recommended TSH levels and levothyroxine compliance in differentiated thyroid cancer patients. Clin Endocrinol (Oxf). 2022;97(6):833-840. doi:10.1111/cen.14787
14. Schvartz C, Bonnetain F, Dabakuyo S, Gauthier M, Cueff A, Fieffe S, et al. Impact on overall survival of radioactive iodine in low-risk differentiated thyroid cancer patients. J Clin Endocrinol Metab. 2012;97(5):1526-1535. doi:10.1210/jc.2011-2512
15. Yang SP, Bach AM, Tuttle RM, Fish SA. Serial neck ultrasound is more likely to identify false-positive abnormalities than clinically significant disease in low-risk papillary thyroid cancer patients. Endocr Pract. 2015;21(12):1372-1379. doi:10.4158/EP15851.OR
16. Klubo-Gwiezdzinska J, Auh S, Gershengorn M, Daley B, Bikas A, Burman K, et al. Association of thyrotropin suppression with survival outcomes in patients with intermediate- and high-risk differentiated thyroid cancer. JAMA Netw Open. 2019;2(2):e187754. doi:10.1001/jamanetworkopen.2018.7754.
17. Banerjee M, Wiebel JL, Guo C, Gay B, Wang Y, Haymart MR. Use of imaging tests after primary treatment of thyroid cancer in the United States: population-based retrospective cohort study evaluating death and recurrence. BMJ. 2016;354:i3839. doi:10.1136/bmj.i3839