Volume 19 | Issue 7 | July 2026

Clinical Thyroidology® for the Public

AMERICAN THYROID ASSOCIATION
Optimal Thyroid Health for All

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Editor's Comments

Welcome to another issue of *Clinical Thyroidology for the Public*! In this journal, we will bring to you the most up-to-date, cutting edge thyroid research. We also provide even faster updates of late-breaking thyroid news through X (previously known as Twitter) at @thyroidfriends and on Facebook. Our goal is to provide patients with the tools to be the most informed thyroid patient in the waiting room. Also check out our friends in the **Alliance for Thyroid Patient Education**. The **Alliance** member groups consist of: the *American Thyroid Association®, Bite Me Cancer, the Graves' Disease and Thyroid Foundation, the Light of Life Foundation, MCT8 – AHDS Foundation, ThyCa: Thyroid Cancer Survivors' Association,* and *Thyroid Federation International*.

We invite all of you to join our **Friends of the ATA** community. It is for you that the American Thyroid Association® (ATA®) is dedicated to carrying out our mission of providing reliable thyroid information and resources, clinical practice guidelines for thyroid detection and treatments, resources for connecting you with other patients affected by thyroid conditions, and cutting edge thyroid research as we search for better diagnoses and treatment outcomes for thyroid disease and thyroid cancer. We thank all of the *Friends of the ATA* who support our mission and work throughout the year to support us. We invite you to help keep the ATA® mission strong by choosing to make a donation that suits you — it takes just one moment to give online at: www.thyroid.org/donate and all donations are put to good work. The ATA® is a 501(c)3 nonprofit organization and your gift is tax deductible.

July is Graves' Disease Awareness Month.

In this issue, the studies ask the following questions:

- What is the risk of developing hyperglycemia during treatment with teprotumumab?
- Can treatment for thyroid eye disease cause diabetes?
- Is active surveillance an option for patients with thyroid cancer that has recurred after the initial surgery?
- Can US elastography help determine if my thyroid nodule is cancer?
- Are thyroid problems more common in children with high-risk neuroblastoma?
- Should I choose local or systemic therapy if my thyroid cancer persists after radioactive iodine therapy?

We welcome your feedback and suggestions. Let us know what you want to see in this publication. I hope you find these summaries interesting and informative.

— Alan P. Farwell, MD

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THYROID EYE DISEASE

The risk of developing hyperglycemia during treatment with teprotumumab (Tepezza™)

BACKGROUND

Thyroid eye disease (TED) is an autoimmune condition that includes inflammation of the eyes, eye muscles and the surrounding tissues. Symptoms include dry eyes, red eyes, bulging of the eyes and double vision. This means these patients develop antibodies that get confused and attack the body's own cells. In the case of TED, this means antibodies that attack the muscles around the eye. TED most often occurs in the setting of Graves' disease, the most common cause of hyperthyroidism. It also can be seen with Hashimotos thyroiditis, the most common cause of autoimmune hypothyroidism. Teprotumumab (Tepezza™) is a relatively new treatment for the management of TED that has shown excellent responses.

Most patients treated with teprotumumab tolerate the treatment with few side effects. However, hyperglycemia (high blood sugar) has emerged as a significant adverse event, occurring in up to 10% of patients. This study aimed to definitively characterize the risk of hyperglycemia associated with teprotumumab by using a global electronic health records database, thereby providing a more generalizable estimate of this adverse effect in clinical practice.

THE FULL ARTICLE TITLE

Lishinsky-Fischer N et al. Teprotumumab-associated hyperglycemia: a large-scale multinational cohort study. Thyroid. Epub 2026 Apr 9:10507256261442501. doi: 10.1177/10507256261442501. PMID: 41954033.

SUMMARY OF THE STUDY

The investigators identified TED patients who received at least four infusions of teprotumumab using the TriNetX Global Collaborative Network, encompassing over 165 health care organizations worldwide. Matching accounted for demographics, other illness affecting glucose levels, baseline A1C, BMI, and treatment with steroids exposure. The primary outcomes were the 5-year cumulative incidence of prediabetes, diabetes, severe hyperglycemia, and initiation of antidiabetes medications.

Overall, 792 patients were included in the teprotumumab-treated group and 792 patients were included in the group that did not receive teprotumumab (control group). Teprotumumab treatment was associated with a significantly increased 5-year risk for all outcomes. They found a 2-fold risk for developing prediabetes and a 1.5 -fold risk for developing diabetes. Overall, 24% in the treated group had prediabetes versus 10% in control groups. The need to initiate antidiabetes medication was 1.6-fold increased in patients treated with teprotumumab. Overall, individuals at highest risk for hyperglycemia are females, patients ≥55 years of age, and White individuals.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Teprotumumab is a promising new treatment for the management of thyroid eye disease. It may cause worsening blood glucose control. The highest risk appears to be in women, individuals >55 years and white individuals. Continued monitoring of blood glucose levels and risk assessment is recommended for individuals who are undergoing this treatment.

— Alan P. Farwell, MD

ATA THYROID BROCHURE LINKS

Thyroid Eye Disease: https://www.thyroid.org/thyroid-eye-disease/

THYROID EYE DISEASE, continued

ABBREVIATIONS & DEFINITIONS

Autoimmune thyroid disease: a group of disorders that are caused by antibodies that get confused and attack the thyroid. These antibodies can either turn on the thyroid (Graves' disease, hyperthyroidism) or turn it off (Hashimoto's thyroiditis, hypothyroidism).

Teprotumumab (Tepezza™): a relatively new treatment for the management of thyroid eye disease (TED) that has shown excellent responses. It blocks the insulin-like growth factor 1 receptor (IGF-1R) inhibitor and has revolutionized the treatment of TED.

Thyroid eye disease (TED): also known as Graves ophthalmopathy. TED is most often seen in patients with Graves' disease but also can be seen with Hashimoto's thyroiditis. TED includes inflammation of the eyes, eye muscles and the surrounding tissues. Symptoms include dry eyes, red eyes, bulging of the eyes and double vision.

Graves' disease: the most common cause of hyperthyroidism in the United States. It is caused by antibodies that attack the thyroid and turn it on.

Hashimotos thyroiditis: the most common cause of hypothyroidism in the United States. It is caused by antibodies that attack the thyroid and destroy it.

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THYROID EYE DISEASE

Long-term impact of teprotumumab (Tepezza™) on blood glucose levels

BACKGROUND

Thyroid eye disease (TED) is an autoimmune condition that includes inflammation of the eyes, eye muscles and the surrounding tissues. Symptoms include dry eyes, red eyes, bulging of the eyes and double vision. This means these patients develop antibodies that get confused and attack the body's own cells. In the case of TED, this means antibodies that attack the muscles around the eye. TED most often occurs in the setting of Graves' disease, the most common cause of hyperthyroidism. It also can be seen with Hashimotos thyroiditis, the most common cause of autoimmune hypothyroidism. Teprotumumab (Tepezza™) is a relatively new treatment for the management of TED that has shown excellent responses.

Most patients treated with teprotumumab tolerate the treatment with few side effects. However, one of the side effects of this medication is increased blood glucose levels in patients with and without diabetes. This evaluates a long-term group of patients to quantify the severity and implications of teprotumumab-induced hyperglycemia.

THE FULL ARTICLE TITLE

Ha SK, et al. Longitudinal glycemic outcomes in patients with thyroid eye disease treated with Teprotumumab. Ophthalmic Plast Reconstr Surg 2025.

SUMMARY OF THE STUDY

This study was conducted at the Massachusetts Eye and Ear Infirmary, capturing clinical data from January 1, 2020, to March 31, 2025. Inclusion required adult patients initiating teprotumumab for TED to have documented hemoglobin A1c measurements both prior to and after starting treatment. A total of 71 patients (average age 58 years; 71.8% female) with an average follow-up of 28 months. Of these patients slightly more than half developed worsening blood glucose control. The patients who had diabetes showed peak worsening of blood glucose control around 5 months (A1c increase 1.4%), whereas those individuals who did not have diabetes peaked around 13 months (A1c increase 0.3-0.5%). In addition, only about a third of these patients had restoration of normal blood glucose control after treatment. These A1c elevations occurred uniformly across normal, overweight, and obese BMIs.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Teprotumumab is a promising new treatment for the management of thyroid eye disease. It may cause worsening of blood glucose control. However, the time of onset appears to be dependent on the presence or absence of diabetes prior to use of this medication. Continued monitoring of blood glucose levels and risk assessment is recommended for individuals who are undergoing this treatment.

—Vibhavasu Sharma, MD, FACE

ATA THYROID BROCHURE LINKS

Thyroid Eye Disease: https://www.thyroid.org/thyroid-eye-disease/

THYROID EYE DISEASE, continued

ABBREVIATIONS & DEFINITIONS

Autoimmune thyroid disease: a group of disorders that are caused by antibodies that get confused and attack the thyroid. These antibodies can either turn on the thyroid (Graves' disease, hyperthyroidism) or turn it off (Hashimoto's thyroiditis, hypothyroidism).

Thyroid eye disease (TED): also known as Graves ophthalmopathy. TED is most often seen in patients with Graves' disease but also can be seen with Hashimoto's thyroiditis. TED includes inflammation of the eyes, eye muscles and the surrounding tissues. Symptoms include dry eyes, red eyes, bulging of the eyes and double vision.

Teprotumumab (Tepezza™): a relatively new treatment for the management of thyroid eye disease (TED) that has shown excellent responses. It blocks the insulin-like growth factor 1 receptor (IGF-1R) inhibitor and has revolutionized the treatment of TED.

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THYROID CANCER

Feasibility of active surveillance for recurrent thyroid cancer

BACKGROUND

Thyroid cancer is the most common endocrine cancer. Most thyroid cancer patients show excellent response to their initial treatment, and the overall prognosis is excellent. When thyroid cancer recurs, it usually recurs in the neck, whether in the thyroid bed where the original cancer was, or in the nearby lymph nodes in the neck. Surgery has traditionally been the standard treatment to remove this recurrent cancer. However, repeat surgeries can carry important risks, including permanent damage to the parathyroid glands (which help control calcium levels) and injury to the laryngeal nerve (which can lead to a hoarse voice).

Because of these concerns, some alternative approaches have been considered for selected patients with small, stable recurrences. One option is active surveillance, which involves closely monitoring the cancer with regular follow-up visits and imaging rather than treating it immediately. However, the evidence supporting active surveillance for recurrent thyroid cancer has limitations. Most published studies include a small number of patients followed for a limited time. These factors may underestimate the true risk of cancer progression, especially when patients are lost to follow-up or choose surgery before any progression is observed.

In this study, the researchers reviewed all of the prior studies with the goal of providing a more accurate estimate of the risk of cancer progression during active surveillance of patients with recurrent thyroid cancer.

THE FULL ARTICLE TITLE

Lim H et al. Active Surveillance for Locoregional Recurrent Differentiated Thyroid Cancer: A Systematic Review and Meta-Analysis. Thyroid. 2026 Feb;36(2):121-132. doi: 10.1177/10507256251412323. Epub 2026 Jan 7. PMID: 41791888.

SUMMARY OF THE STUDY

The authors identified 10 studies including a total of 841 patients with thyroid cancer (predominantly papillary thyroid carcinoma) who had recurrence of their cancer in the neck area (thyroid bed nodules or lymph node in the neck) after undergoing surgical removal of the primary thyroid tumor. These patients were managed with active surveillance rather than immediate treatment, with an average follow-up period of 52 months. In most studies, 76-94% of patients received radioactive iodine treatment after the initial thyroid surgery. The initial baseline cancer size ranged from 5 to 13 mm. Most studies excluded patients with large cancers (larger than 20-30 mm), potentially aggressive cancers or spread outside of the neck. The study evaluated the progression rate of recurrent thyroid cancer during active surveillance and identified factors associated with cancer progression.

Across all studies, approximately 23% of patients experienced cancer progression while under active surveillance. In studies where the recurrence was confirmed by biopsy, the progression rate was higher, reaching 32%. Studies that included fewer patients with early-stage cancer reported higher progression rates (30% vs. 11%). Similarly, studies with a greater proportion of patients with advanced stage cancer reported higher progression rates (28% vs. 14%). Interestingly, studies an average follow-up of less than 40 months reported higher progression rates than studies with longer follow-up (36% vs. 17%). The authors suggested that this finding may reflect differences in patient selection and study design rather than a true reduction in risk over time.

Patients whose had cancer progression had significantly higher baseline thyroglobulin levels, a blood marker commonly used to monitor thyroid cancer recurrence, compared with patients with stable cancer. Many of the included studies had substantial loss to follow-up, meaning that some patients stopped participating before the study ended. When the authors adjusted their analysis to account for the missing patients, the estimated progression rate increased considerably, ranging from 35% to 70%.

THYROID CANCER, continued

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

When patients with recurrent thyroid cancers were carefully selected for active surveillance, about 23% showed progression their cancer. However, this figure is likely an underestimate because some patients were lost to follow-up, while others received surgery or other treatments before progression could be fully assessed. These findings suggest that active surveillance for recurrent thyroid cancer should be used cautiously. Patients with higher baseline Tg levels or more advanced cancer at diagnosis appear to have a greater risk of cancer progression and may require closer monitoring or earlier treatment.

— Elie Naous, MD
— Alina Gavrila, MD, MMSC

ATA THYROID BROCHURE LINKS

Thyroid Cancer (Papillary and Follicular): https://www.thyroid.org/thyroid-cancer/

ABBREVIATIONS & DEFINITIONS

Thyroid cancer: this includes papillary, follicular and oncocytic thyroid cancer.

Cancer metastasis: spread of cancer from the initial organ where it developed to other organs, such as the lungs and bone.

Cancer recurrence: this occurs when the cancer comes back after an initial treatment that was successful in destroying all detectable cancer at some point.

Active Surveillance (AS): following a small, low-risk thyroid cancer with ultrasound and deferring surgery until the cancer grows significantly.

Radioactive iodine (RAI): this plays a valuable role in diagnosing and treating thyroid problems since it is taken up only by the thyroid gland. I-131 is the destructive form used to destroy thyroid tissue in the treatment of thyroid cancer. I-123 is the non-destructive form that does not damage the thyroid and is used in scans to take pictures of the whole body to look for thyroid cancer (Whole Body Scan).

Thyroglobulin: a protein made only by thyroid cells, both normal and cancerous. When all normal thyroid tissue is destroyed after radioactive iodine therapy in patients with thyroid cancer, thyroglobulin can be used as a thyroid cancer marker in patients that do not have thyroglobulin antibodies.

Parathyroid glands: usually four small glands located around the thyroid that secrete parathyroid hormone (PTH) which regulates the body's calcium levels.

Lymph node: bean-shaped organ that plays a role in removing what the body considers harmful, such as infections and cancer cells.

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THYROID NODULES

Elastography for thyroid nodule risk stratification: does it add value beyond ACR TI-RADS?

BACKGROUND

Thyroid nodules are common, occurring in up to 50% of individuals that have imaging studies that include the neck. The main concern for evaluation of a thyroid nodule is whether or not it is a cancer. Fortunately, only ~5% of thyroid nodules are thyroid cancer. Ultrasound is the best study to evaluate thyroid nodules. Ultrasound risk-stratification systems such as the American College of Radiology Thyroid Imaging Reporting and Data System (ACR TI-RADS) have attempted to standardize the evaluation of thyroid nodules and reduce unnecessary biopsies, as features on ultrasound can help to identify the risk that a certain nodule is a cancer. However, overlap in ultrasound features between benign and cancerous nodules persists.

Ultrasound elastography, which assesses tissue stiffness, has been proposed as a potential tool to improve diagnostic accuracy, as lower tissue stiffness (softer nodules) suggests that the nodule is benign. This study evaluated the performance of elastography when integrated with conventional ultrasound risk-stratification systems.

THE FULL ARTICLE TITLE

Angelopoulos N et al. Elastography enhances diagnostic accuracy of ACR TI-RADS in thyroid nodule evaluation. J Clin Endocrinol Metab. Epub 2025 Dec 18:dgaf670; doi: 10.1210/clinem/dgaf670. PMID: 41409005.

SUMMARY OF THE STUDY

This study evaluated thyroid nodules referred for thyroid biopsy according to the ACR TI-RADS recommendations. All nodules in the study underwent biopsy, but not all had definitive surgical pathology. Elastography measurements were analyzed alongside usual ultrasound features.

There were 1890 nodules concerning biopsy findings included in the study. Elastography demonstrated increased stiffness in cancerous nodules compared with benign nodules. When combined with TI-RADS classification, the results were more specific for identifying thyroid cancer. Applying elastography ratio reduced the number of recommended biopsies by 48.1% without missing any cancerous nodules. The greatest benefit was observed in intermediate-risk nodules, where elastography helped refine biopsy decisions. However, overlap in stiffness values remained.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that ultrasound elastography may provide a slight increase in diagnostic value when combined with TI-RADS, particularly in intermediate-risk nodules. Standardization and further validation are needed before widespread incorporation into routine risk-stratification algorithms.

— Alan P. Farwell, MD

ATA THYROID BROCHURE LINKS

Thyroid Nodules: https://www.thyroid.org/thyroid-nodules/

Fine Needle Aspiration Biopsy of Thyroid Nodules: https://www.thyroid.org/fna-thyroid-nodules/

Thyroid Cancer (Papillary and Follicular): https://www.thyroid.org/thyroid-cancer/

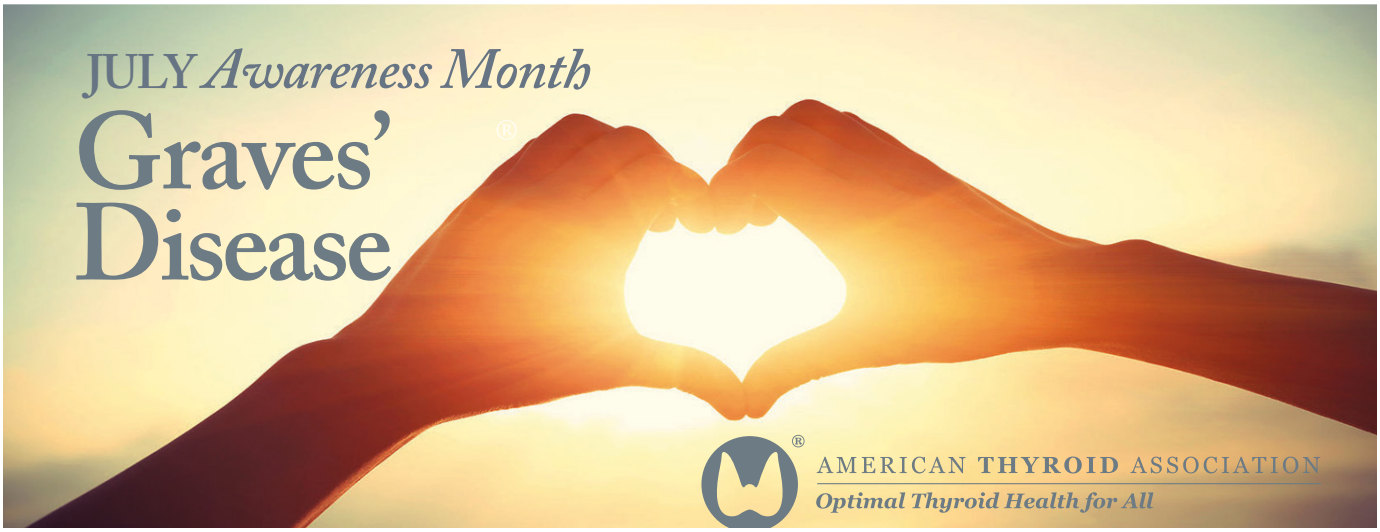
THYROID NODULES, continued

ABBREVIATIONS & DEFINITIONS

Thyroid nodule: an abnormal growth of thyroid cells that forms a lump within the thyroid. While most thyroid nodules are non-cancerous (Benign), ~5% are cancerous.

Thyroid Ultrasound: a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

Shear wave elastography: an ultrasound technique used to measure the stiffness of a thyroid nodule. Cancerous nodules are stiffer than benign nodules.



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CHILDHOOD CANCER AND THYROID DISEASE

How often do children treated for high-risk neuroblastoma develop thyroid problems?

BACKGROUND

Neuroblastoma is a cancer that starts in developing nerve cells and is the most common solid cancer outside the brain in children. Most cases are diagnosed in infancy or before age 5. About one-third of patients have high-risk neuroblastoma (HRNB) at diagnosis. HRNB is one of the most difficult cancers to treat, so it is managed with a combination of intensive therapies. These treatments have made a real difference, and more children are surviving HRNB. But the same treatments can have side effects that may appear years later. The developing thyroid gland is especially vulnerable to their side effects.

This study was done to examine how often HRNB survivors develop thyroid problems long after treatment and to identify the associated risk factors.

THE FULL ARTICLE TITLE

Deodati A et al. Long-term thyroid toxicity burden in children who received treatment for high-risk neuroblastoma. Thyroid 2026;36(3):259–267; doi: 10.1177/10507256261425684. PMID: 41735800.

SUMMARY OF THE STUDY

The study was done at a specialized children's hospital in Italy. Researchers reviewed records of children treated for HRNB who were followed for at least 5 years after diagnosis. The patients had thyroid exams every year that included blood tests for thyroid function and an ultrasound to image the thyroid. The researchers collected information on each child's treatment history. Treatments were chemotherapy, surgery, radiotherapy, immunotherapy, and 131 I-MIBG. 131 I-MIBG is a radioactive medicine that can be used in small doses for scanning and at higher doses for treatment. Researchers recorded whether children received it as treatment and the number of diagnostic scans they had. Some children also received a more intense chemotherapy (MAT) which also damages bone marrow, so their own stem cells were collected before treatment and returned afterwards to rebuild the bone marrow. Some had this done once and others twice (tandem MAT). Thyroid toxicity was defined as underactive thyroid, overactive thyroid, thyroid nodules, or thyroid cancer.

The study included 45 long-term HRNB survivors with an average follow-up of 10.6 years after diagnosis (range, 5-25.8 years), meaning half of the patients were diagnosed less than 10.6 years. The average age was 13.3 years (range 7.5-27) at last visit. Long-term thyroid toxicity occurred in 24 of the 45 survivors (53%) at an average of 7.5 years from the diagnosis (range 1.2-18.2). The most common thyroid problem was underactive thyroid, diagnosed in 12 of the 24 patients who had thyroid toxicity. Thyroid ultrasound showed smaller-than-expected thyroid glands in 11 of these 24 patients (45%), and 9 patients had one or more thyroid nodules measuring 0.6–14 mm. One patient was diagnosed with papillary thyroid cancer 10 years after a neuroblastoma diagnosis. This patient was treated with chemotherapy but had not received radiation or 131 I-MIBG therapy. The chances of remaining free from thyroid toxicity 10 years after treatment was 62%. Children treated with tandem MAT were significantly more likely to develop thyroid toxicity. Children treated with immunotherapy, chemotherapy drug busulfan, or 131 I-MIBG developed thyroid toxicity earlier than those who did not receive these treatments.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This study shows that HRNB survivors have an increased risk of developing thyroid problems years after treatment. The most common thyroid problem was an underactive thyroid. In the past, fewer children survived HRNB, so limited information was available. This was a small study, but the patients had detailed thyroid evaluations over many years at a single center. The findings are useful for

CHILDHOOD CANCER AND THYROID DISEASE, continued

understanding long-term thyroid risks in HRNB survivors as well as risk factors and timing of thyroid disease. These thyroid problems are detectable and treatable. As more children survive cancer and live into adulthood, it is important for patients and their care teams to be aware of thyroid problems that could happen years after treatment and plan for long-term follow-up and screening.

— Ebru Sulanc, MD

ATA THYROID BROCHURE LINKS

Thyroid Function Tests: https://www.thyroid.org/thyroid-function-tests/

Hypothyroidism (Underactive): https://www.thyroid.org/hypothyroidism/

ABBREVIATIONS & DEFINITIONS

Hypothyroidism: a condition where the thyroid gland is underactive and doesn't produce enough thyroid hormone. Treatment requires taking thyroid hormone pills.

Papillary thyroid cancer: the most common type of differentiated thyroid cancer. There are 4 variants of papillary thyroid cancer: classic, follicular, tall-cell and noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP).

Thyroid Ultrasound: a common imaging test used to evaluate the structure of the thyroid gland. Ultrasound uses soundwaves to create a picture of the structure of the thyroid gland and accurately identify and characterize nodules within the thyroid. Ultrasound is also frequently used to guide the needle into a nodule during a thyroid nodule biopsy.

Thyroid nodule: an abnormal growth of thyroid cells that forms a lump within the thyroid. While most thyroid nodules are non-cancerous (Benign), ~5% are cancerous.

Neuroblastoma: a cancer that starts in developing nerve cells and is the most common solid cancer outside the brain in children. Most cases are diagnosed in infancy or before age 5. About one-third of patients have high-risk neuroblastoma (HRNB) at diagnosis.

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THYROID CANCER

2025 ATA Differentiated Thyroid Cancer Guidelines: Local vs Systemic Therapy

BACKGROUND

The majority of patients with thyroid cancer do very well with an excellent prognosis. This is because we have very effective treatments, including surgery to remove the cancer and radioactive iodine therapy to destroy any remaining thyroid cancer after surgery. However, 5 to 15% of patients have more advanced cancer which can develop resistance to radioactive iodine therapy (radioactive iodine–refractory, RAIR), which is linked to markedly worse clinical outcomes. In this case, the next step has traditionally been to begin systemic therapy (chemotherapy) with drugs known as tyrosine-kinase inhibitors (TKIs). However, TKIs, while helpful, do not cure the cancer and >90% of patients experience at least one adverse event during therapy. Further, many patients have no symptoms from their cancer and may ultimately experience worse quality of life from treatment than from the disease itself. This has led to a shift by the ATA 2025 guidelines in recommending local treatment first before starting systemic therapy.

THE FULL ARTICLE TITLE

Ringel MD et al. 2025 American Thyroid Association management guidelines for adult patients with differentiated thyroid cancer. Thyroid 2025;35(8):841-985.

SUMMARY OF THE STUDY

The 2025 ATA thyroid cancer guidelines refer to patients with differentiated thyroid cancer, almost all of which are papillary thyroid carcinoma.

The rationale for prioritizing localized therapy before—or sometimes instead of—systemic therapy in metastatic radioactive iodine–refractory thyroid cancer has become increasingly clear in recent years and is now strongly reflected in both the 2025 American Thyroid Association (ATA) and the current National Comprehensive Cancer Network (NCCN) guidelines. This is because of several factors: 1) RAIR thyroid cancer does not uniformly result in rapid progression of the cancer, 2) TKIs, while helpful, do not cure the cancer and >90% of patients experience at least one adverse event during therapy, 3) many patients have no symptoms from their cancer may ultimately experience worse quality of life from treatment than from the disease itself, 4) local therapies have the potential to provide control of the cancer, 5) local treatment may help prolong TKI effectiveness, and 6) the importance of maintaining long-term quality of life in patients who often live many years with metastatic thyroid cancer.

Local therapies may include 1) active surveillance with serial imaging at intervals of 3 to 12 months, 2) repeat surgery, 3) targeted radiation therapy and 4) radiofrequency ablation (RFA). The ATA recommendations strongly support local therapy for symptomatic metastatic disease. Local, directed therapy can rapidly improve symptoms, prevent complications, and improve functional outcomes.

WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Given that many RAIR thyroid cancers are not rapidly progressing, and that TKIs are effective but far from benign in their side effects, well selected local therapies can often control disease for prolonged periods ("systemic therapy–free survival") while allowing patients to maintain a better quality of life. The expanding role of surgery, directed radiation therapy and RFA is not about replacing systemic therapy altogether, but about using the right treatment at the right moment—and sometimes buying patients years before they truly need long-term systemic treatment. Indeed, systemic therapy should be reserved for patients with progressive, symptomatic cancer that fails to respond to radioactive iodine therapy and cannot be surgically removed. Systemic therapy is typically started when cancer growth exceeds 20% over 12 to 14 months.

As always, these decisions should result from a shared-decision making discussion with the patient and their doctor.

— Alan P. Farwell, MD

THYROID CANCER, continued

ATA THYROID BROCHURE LINKS

Thyroid Cancer (Papillary and Follicular): https://www.thyroid.org/thyroid-cancer/
Thyroid Surgery: https://www.thyroid.org/thyroid-surgery/
Radioactive Iodine Therapy: https://www.thyroid.org/radioactive-iodine/

ABBREVIATIONS & DEFINITIONS

Papillary thyroid cancer: the most common type of differentiated thyroid cancer. There are 4 variants of papillary thyroid cancer: classic, follicular, tall-cell and noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP).

Follicular thyroid cancer: the second most common type of differentiated thyroid cancer.

Thyroidectomy: surgery to remove the entire thyroid gland. When the entire thyroid is removed it is termed a *total thyroidectomy*. When less is removed, such as in removal of a lobe, it is termed a *partial thyroidectomy*.

Radioactive iodine (RAI): this plays a valuable role in diagnosing and treating thyroid problems since it is taken up only by the thyroid gland. **I-131** is the destructive form used to destroy thyroid tissue in the treatment of thyroid cancer and with an overactive thyroid. **I-123** is the non-destructive form that does not damage the thyroid and is used in scans to take pictures of the thyroid (*Thyroid Scan*) or to take pictures of the whole body to look for thyroid cancer (*Whole Body Scan*).

Tyrosine kinases: proteins that are overactive in many of the pathways that cause cells to be cancerous.

Tyrosine kinase inhibitors: Chemotherapy drugs that are used to treat thyroid cancer that no longer responds to radioactive iodine and cannot be removed by surgery. These drugs can target a single tyrosine kinase or multiple tyrosine kinases. Examples of these drugs are Levatinib and Sorafinib.

Radiofrequency ablation (RFA): a procedure where very thin needle is inserted into a thyroid nodule then uses heat to destroy the nodule.

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ATA® Alliance for Thyroid Patient Education

GOAL The goal of our organizations is to provide accurate and reliable information for patients about the diagnosis, evaluation and treatment of thyroid diseases. We look forward to future collaborations and continuing to work together toward the improvement of thyroid education and resources for patients.

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Graves' Disease & Thyroid Foundation

ThyCa: Thyroid Cancer Survivors' Association, Inc.℠ www.thyca.org

Light of Life Foundation checkyourneck.com

MCT8 - AHDS Foundation

BITE ME CANCER!

Thyroid Federation International

American Thyroid Association®
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(Toll-free): 1-800-THYROID
thyroid@thyroid.org

Bite Me Cancer
www.bitemecancer.org
info@bitemecancer.org

Graves' Disease and Thyroid Foundation
www.gdatf.org
(Toll-free): 877-643-3123
info@ngdf.org

Light of Life Foundation
www.checkyourneck.com
info@checkyourneck.com

MCT8 – AHDS Foundation
mct8.info
Contact@mct8.info

Thyca: Thyroid Cancer Survivors' Association, Inc.
www.thyca.org
(Toll-free): 877-588-7904
thyca@thyca.org

Thyroid Federation International
www.thyroid-federation.org
tfi@thyroid-federation.org

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FOUNDED 2005

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