

# Clinical THYROIDOLOGY FOR PATIENTS



AMERICAN  
THYROID  
ASSOCIATION  
FOUNDED 1923

VOLUME 5 • ISSUE 12 • 2012

[www.thyroid.org](http://www.thyroid.org)

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Wanjia X et al. A high normal TSH level is associated with an atherogenic lipid profile in euthyroid non-smokers with newly diagnosed asymptomatic coronary heart disease. *Lipids Health Dis* 2012;11:44.

Wang F et al. Thyroid-stimulating hormone levels within the reference range are associated with serum lipid profiles independent of thyroid hormones. *J Clin Endocrinol Metab* 2012;97:2724-31. Epub June 22, 2012.

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Vivanco M et al 2012. Malignant and benign thyroid nodules after total body irradiation preceding hematopoietic cell transplantation during childhood. *Eur J Endocrinol* 167:225-233. Epub May 22, 2012.

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Since a report in 2006 from the United Kingdom suggesting that higher serum TSH was risk factor for thyroid cancer in thyroid nodules, there have been many additional studies to evaluate this association. In the current study, the authors performed a systematic review of clinical studies that examined this relationship between serum TSH and the diagnosis of thyroid cancer in thyroid nodules.

McLeod DS et al Thyrotropin and thyroid cancer diagnosis: a systematic review and dose-response meta-analysis. *J Clin Endocrinol Metab* 2012;97(8):2682-92.

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Thyroid cancer is the second most common cancer discovered both during pregnancy and within the first year after delivery. The authors compared thyroid cancers diagnosed during pregnancy to those cancers diagnosed in non-pregnant women of similar ages using gene profiling and molecular markers.

Lee JC et al. Papillary thyroid carcinoma in pregnancy: a variant of the disease? *Ann Surg Oncol*. August 9, 2012 [Epub ahead of print].

## THYROID CANCER ..... 7

#### What can we learn from gene markers in cancer tissue from patients with papillary thyroid cancer?

The aim of the study was to measure the RET/PTC and BRAF gene markers in papillary cancer tissue samples and to determine if they are increasing or decreasing over time. This information may provide clues as to the causes of papillary cancer, especially if there has been a true increase in the occurrence of this cancer.

Romei C et al Modifications in the papillary thyroid cancer gene profile over the last 15 years *J Clin Endocrinol Metab* September, 2012 97(9):E1758-E1765

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#### Are Hürthle-cell thyroid cancers really a more aggressive form of thyroid cancer?

Hürthle-cell cancer (HCC) is a variant of follicular thyroid cancer and is rare, representing 3-7% of all thyroid cancers. It tends to be more aggressive, is more likely to spread to local lymph nodes or other distant organs and is overall less responsive to radioactive iodine therapy compared to other types of thyroid cancer The goal of this study is to compare the characteristics and evolution of patients with HCC included in the SEER database and to also evaluate prognostic factors in HCC patients.

Goffredo Pet al. Hurthle cell carcinoma. *Cancer*. July 11, 2012 [Epub ahead of print]. doi: 10.1002/cncr.27770.

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**Clinical Thyroidology for Patients**

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# CLINICAL THYROIDOLOGY FOR PATIENTS

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## EDITOR'S COMMENTS

Welcome to **Clinical Thyroidology for Patients**, bringing to you, the patients, the most up-to-date, cutting edge thyroid research. What you read here as research studies will likely become the accepted practice in the future. *Clinical Thyroidology for Patients* is published on a monthly basis and includes summaries of research studies that were discussed in a recent issue of *Clinical Thyroidology*, a publication of the American Thyroid Association for physicians. This means that you, the patients, are getting the latest information on thyroid research and treatment almost as soon as your physicians.

The **Calendar of Events** highlights educational forums and support groups that are organized around the country by members of the **Alliance for Thyroid Patient Education**. The **Alliance** member groups consist of: the *American Thyroid Association*, the *Graves' Disease and Thyroid Foundation*, the *Light of Life Foundation* and *ThyCa: Thyroid Cancer Survivors Association*.

Follow us on **Twitter** at [@thyroidfriends](https://twitter.com/thyroidfriends). Get the most up-to-date thyroid news fast and easy! Be the most informed thyroid patient in the waiting room. Please feel free to submit questions as well as suggestions as to how we can better serve thyroid patients.

Check us out on **Facebook**: [www.facebook.com/thyroidassociation](http://www.facebook.com/thyroidassociation).

### In this issue, the studies ask the following questions:

- Does TSH affect cholesterol levels?
- Do survivors of childhood leukemias and lymphomas have an increased risk for thyroid nodules?
- Can the TSH level predict whether a thyroid nodule is cancerous?
- Is thyroid cancer more common in reproductive age women?
- What can gene markers tell us about thyroid cancer?
- Are Hurtle cell thyroid cancers really more aggressive?

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.

Have a Happy Holiday Season!

— Alan P. Farwell, MD



## THYROID AND CHOLESTEROL

### Does thyroid stimulating hormone (TSH) affect cholesterol levels?

#### BACKGROUND

The thyroid gland is regulated by thyroid stimulating hormone (TSH), which is produced by the pituitary gland at the base of the brain. TSH stimulates the thyroid gland to make thyroid hormones and secrete them into the blood. The thyroid hormones control the body's metabolism and can affect cholesterol levels. There are several types of cholesterol, including LDL-cholesterol (bad cholesterol, associated with heart disease) and HDL-cholesterol (good cholesterol, thought to protect against heart disease). When thyroid hormone levels are low and TSH levels are increased (hypothyroidism), cholesterol levels are increased. A mild decrease in cholesterol levels is seen with treatment of hypothyroidism with thyroid hormone. What is not known is whether TSH has any effect on cholesterol levels on its own in the presence of normal thyroid hormone levels. Recently, two separate studies in China looked at whether TSH levels are related to cholesterol levels independent of thyroid hormone levels.

#### THE FULL ARTICLES' TITLES

Wanjia X et al. A high normal TSH level is associated with an atherogenic lipid profile in euthyroid non-smokers with newly diagnosed asymptomatic coronary heart disease. *Lipids Health Dis* 2012;11:44.

Wang F et al. Thyroid-stimulating hormone levels within the reference range are associated with serum lipid profiles independent of thyroid hormones. *J Clin Endocrinol Metab* 2012;97:2724-31. Epub June 22, 2012.

#### SUMMARY OF THE STUDY

Both studies were done at two Chinese hospitals from

2004–2010 in adult patients who previously had TSH, thyroid hormone and cholesterol blood tests done. The study by Wanjia and colleagues looked at 521 patients recently diagnosed with heart disease, while the study by Wang and colleagues looked at 3709 patients who were seen for a routine medical visit. Both studies consisted only of patients who were not taking any medications nor had health problems that could impact the TSH, thyroid hormone or cholesterol tests. Both studies reported that patients with TSH levels at the upper limit of the normal range (thus with normal thyroid hormone levels) were more likely to have higher cholesterol levels as compared with those with lower TSH levels.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

It was previously known that thyroid hormone levels affect cholesterol levels. This study suggests that TSH (which produces thyroid hormone) may also affect lipid levels in a way that is independent of the thyroid hormone levels. This may be important in helping clinicians decide if patients with TSH levels at the upper limit of the normal range may be more likely to have high cholesterol levels. However, the findings from these studies are only suggestive and need to be repeated in other studies.

— Angela Leung, MD

#### ATA THYROID BROCHURE LINKS

Thyroid Function Tests: <http://www.thyroid.org/blood-test-for-thyroid>

Hypothyroidism: <http://www.thyroid.org/what-is-hypothyroidism>

#### ABBREVIATIONS & DEFINITIONS

**TSH:** thyroid stimulating hormone – produced by the pituitary gland that regulates thyroid function; also the best screening test to determine if the thyroid is functioning normally.

**Cholesterol:** fat molecules in the blood that are associated with heart disease. There are several

types of cholesterol, including LDL-cholesterol (bad cholesterol, associated with heart disease) and HDL-cholesterol (good cholesterol, thought to protect against heart disease).

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



## THYROID NODULES

### Thyroid nodules are common in survivors of childhood leukemias and lymphomas treated with total-body x-ray irradiation

#### BACKGROUND

Many studies have documented a high frequency of benign or cancerous thyroid nodules in children who have undergone x-ray therapy for to their head or neck for cancers such as leukemias and lymphomas. Even though there is no consensus, the prevailing opinion is that these nodules are more frequently cancers than nodules found in the general populations. The risk increases with higher doses of x-rays used. In addition, children whose thyroids receive very high doses of x-rays may develop hypothyroidism as the normal thyroid cells die. This study looked at children with leukemia or lymphoma receiving total body x-ray treatments in preparation for stem-cell transplantation. The aim was to define how many developed thyroid nodules after the x-ray treatment and whether these nodules were benign or cancers.

#### THE FULL ARTICLE TITLE

Vivanco M et al 2012. Malignant and benign thyroid nodules after total body irradiation preceding hematopoietic cell transplantation during childhood. *Eur J Endocrinol* 167:225-233. Epub May 22, 2012.

#### SUMMARY OF THE STUDY

From 1989 until 2009, 76 patients who had received total body x-ray irradiation in preparation to stem cell transplantation underwent thyroid ultrasound over a period of 2-19 years. A total of 21 (28%) of the patients developed thyroid nodules, with those who were treated at a younger age being more prone to develop nodules than

those treated later in childhood. Some of this increase may have been due to being observed for a longer period of time. Most of the nodules were benign, although 29% were cancers, all of which were papillary cancer, the most common form of thyroid cancer. To date, all patients with thyroid cancer were effectively treated and show no evidence of persistent thyroid cancer.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

Children who receive total body x-ray treatments during childhood should undergo long-term ultrasound monitoring of their thyroids to detect nodules that may develop from the x-rays. Suspicious nodules should be biopsied to detect thyroid cancers. Also, some patients develop hypothyroidism after total body x-ray irradiation and therefore thyroid hormone levels need to be monitored for life.

— Glenn Braunstein, MD

#### ATA THYROID BROCHURE LINKS

Hypothyroidism: <http://www.thyroid.org/what-is-hypothyroidism>

Thyroid Nodules: <http://www.thyroid.org/what-are-thyroid-nodules>

Thyroid cancer: <http://www.thyroid.org/cancer-of-the-thyroid-gland>

Childhood Head and Neck Irradiation: <http://www.thyroid.org/pediatric-endocrinology>

#### 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 sound waves 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.

**Papillary thyroid cancer:** the most common type of thyroid cancer.



## THYROID NODULES

### Serum TSH levels in the upper normal range suggest that a thyroid nodule is cancerous

#### BACKGROUND

Thyroid nodules can be seen in up to 50% of individuals that have imaging studies that include the neck. The concern about any nodule is the risk for cancer, which is seen in 5-10% of thyroid nodules. Since a report in 2006 from the United Kingdom suggesting that higher serum TSH was risk factor for thyroid cancer in thyroid nodules, there have been many additional studies to evaluate this association. In the current study, the authors performed a systematic review of clinical studies that examined this relationship between serum TSH and the diagnosis of thyroid cancer in thyroid nodules.

#### THE FULL ARTICLE TITLE

McLeod DS et al Thyrotropin and thyroid cancer diagnosis: a systematic review and dose-response meta-analysis. *J Clin Endocrinol Metab* 2012;97(8):2682-92.

#### SUMMARY OF THE STUDY

The authors used several medical literature databases to find all published papers containing studies related to thyroid cancer and serum TSH concentrations. They calculated the likelihood of cancer associated with serum TSH values. A total of 28 studies were selected for this systematic review and 22 of these studies included 40,929 patients and 5605 cases of thyroid cancer.

A total of 15 of the studies included in the analysis show a TSH-related increase in the likelihood of cancer,

frequently extending to a frankly elevated serum TSH. Using a predictive model the authors found that as serum TSH levels increased, so did the risk of thyroid cancer. For example, at a TSH of 3 mU/L, the likelihood that the nodule was a cancer was almost twice that seen with a TSH of 1, while there was an almost 3-fold greater likelihood of cancer if the TSH was 5 mU/L.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The conclusion of this study is that higher serum TSH concentrations are generally associated with an increased risk of thyroid cancer in thyroid nodules. This study and another large study also indicates that a relatively low serum TSH suggests that a nodule is more likely to be benign (non-cancerous). This could have potential implications in the management of patients with thyroid nodules, suggesting a possible benefit of treatment with levothyroxine in those patients with higher TSH. However, prospective well designed studies would be needed to evaluate this theory.

— M. Regina Castro, MD

#### ATA THYROID BROCHURE LINKS

Thyroid Function Tests: <http://www.thyroid.org/blood-test-for-thyroid>

Thyroid Nodules: <http://www.thyroid.org/what-are-thyroid-nodules>

#### ABBREVIATIONS & DEFINITIONS

**Levothyroxine (T<sub>4</sub>):** the major hormone produced by the thyroid gland and available in pill form as Levoxyl™, Synthroid™, Levothroid™ and generic preparations.

**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.

**TSH: thyroid stimulating hormone** — produced by the pituitary gland that regulates thyroid function; also the best screening test to determine if the thyroid is functioning normally



## THYROID CANCER

### Thyroid cancer is more common in reproductive age women but is not clinically more aggressive

#### BACKGROUND

Thyroid cancer is the second most common cancer discovered both during pregnancy and within the first year after delivery. Whether pregnancy has an untoward effect on the thyroid gland making thyroid cancers more prevalent or more aggressive is not well known. The authors compared thyroid cancers diagnosed during pregnancy to those cancers diagnosed in non-pregnant women of similar ages. To do that, they used gene profiling and molecular markers, techniques previously used to classify thyroid cancer types and to differentiate cancerous thyroid nodules from their benign counterparts.

#### THE FULL ARTICLE TITLE

Lee JC et al. Papillary thyroid carcinoma in pregnancy: a variant of the disease? *Ann Surg Oncol*. August 9, 2012 [Epub ahead of print].

#### SUMMARY OF THE STUDY

The study included 2 groups of patients: Group 1 included 24 women who were diagnosed with thyroid cancer either during pregnancy or within the first year after delivery; Group 2 included 30 women of the same age as Group 1 but who were not pregnant at time of thyroid cancer discovery. The cancer characteristics and gene profiles/molecular markers were compared.

Cancers from the pregnancy group (group 1) were larger and showed more spread to the lymph nodes in the neck than those in group 2. However, the authors did not show reproducible differences in their molecular markers, suggesting similar cancer activity. None of the patients died from thyroid cancer and the risk of cancer recurrence was also similar in both groups.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

In women, thyroid cancers discovered during or soon after pregnancy are more likely to spread to lymph nodes but have a similar prognosis and similar molecular markers as cancers diagnosed in the non-pregnant state. This study supports the recommendation to delay surgery until after delivery unless the patient presents with aggressive cancer features early in the pregnancy course.

— Mona Sabra, MD

#### ATA THYROID BROCHURE LINKS

Thyroid cancer: <http://www.thyroid.org/cancer-of-the-thyroid-gland>

Thyroid and Pregnancy: <http://www.thyroid.org/thyroid-disease-and-pregnancy>

#### ABBREVIATIONS & DEFINITIONS

**Genes:** a molecular unit of heredity of a living organism. Living beings depend on genes, as they code for all proteins and RNA chains that have functions in a cell. Genes hold the information to build and maintain an organism's cells and pass genetic traits to offspring.

**Molecular markers:** genes and microRNAs that are expressed in benign or cancerous cells. Molecular markers can be used in thyroid biopsy specimens to either to diagnose cancer or to determine that the nodule is benign.



## THYROID CANCER

### What can we learn from gene markers in cancer tissue from patients with papillary thyroid cancer?

#### BACKGROUND

Thyroid cancer, especially papillary cancer, has been diagnosed more frequently during the past 20 years. It is not known if this is due to a true increase in cancer or easier and earlier diagnosis of small cancers which have been discovered due to the increased use of diagnostic imaging tests, such as CT scans and ultrasounds. The trend has been to discover smaller cancers especially in older populations. Cancer-associated genes found in papillary cancers may provide information about thyroid cancer. Many researchers have been studying these markers with the hope of making the diagnosis of papillary cancer easier, improving the ability to predict the prognosis of papillary cancer and discovering the causes of papillary cancer. This study was done to measure the incidence of 2 gene markers over a 15 year time frame. The markers are RET/PTC which is commonly caused by chromosome breaks from ionizing radiation and BRAF which is a single “point” change in a chromosome which could be spontaneous or due to unknown environmental pollutants. The aim of the study was to measure the RET/PTC and BRAF gene markers in papillary cancer tissue samples and to determine if they are increasing or decreasing over time. This information may provide clues as to the causes of papillary cancer, especially if there has been a true increase in the occurrence of this cancer.

#### THE FULL ARTICLE TITLE

Romei C et al Modifications in the papillary thyroid cancer gene profile over the last 15 years J Clin Endocrinol Metab September, 2012 97(9):E1758-E1765.

#### SUMMARY OF THE STUDY

Saved tissue samples from patients with papillary cancer treated at several Italian thyroid cancer centers were tested for the gene markers RET/PTC and BRAF V600e. Samples from 3 time intervals (1996-2000, 2000-2005 and 2005-2010) were compared. During each 5 year time interval the incidence of the RET/PTC marker progressively decreased and the BRAF marker increased from the first to the last interval. The cancer size decreased and the age of the patients increased during the same intervals.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

The conclusion is that the BRAF gene marker is increasing in all patients with papillary cancer during the 15 year time frame, not only in older patients but in all age groups, possibly due to exposure to newer environmental pollutants. Secondly, older patients may be more sensitive to these cancer-causing factors (such as: environmental pollutants). Finally, the smaller size of newly discovered papillary cancers in older patients may also be due to early discovery from increased use of imaging studies in this population.

— Jerrold M. Stock, MD

#### ATA THYROID BROCHURE LINKS

Thyroid cancer: <http://www.thyroid.org/cancer-of-the-thyroid-gland>

#### ABBREVIATIONS & DEFINITIONS

**Genes:** a molecular unit of heredity of a living organism. Living beings depend on genes, as they code for all proteins and RNA chains that have functions in a cell. Genes hold the information to build and maintain an organism’s cells and pass genetic traits to offspring.

**Molecular markers:** genes and microRNAs that are expressed in benign or cancerous cells. Molecular markers can be used in thyroid biopsy specimens to

either to diagnose cancer or to determine that the nodule is benign.

**Cancer-associated genes:** these are genes that are normally expressed in cells. Cancer cells frequently have mutations in these genes. It is unclear whether mutations in these genes cause the cancer or are just associated with the cancer cells. The cancer-associated genes important in thyroid cancer are BRAF, RET/PTC and RAS.

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## **THYROID CANCER**, continued

**BRAF gene:** this is gene that codes for a protein that is involved in a signaling pathway and is important for cell growth. Mutations in the BRAF gene in adults appear to cause cancer.

**Papillary thyroid cancer:** the most common type of thyroid cancer.

**Ionizing radiation:** radiation that can damage cells, causing cell death or mutation. It can originate from radioactive materials, x-ray tubes or specialized machines. It is invisible and not directly detectable by human senses.





## THYROID CANCER

### Are Hürthle-cell thyroid cancers really a more aggressive form of thyroid cancer?

#### BACKGROUND

Thyroid cancer is the fastest rising cancer in women. Papillary cancer is the most common typed, followed by follicular cancer. Hürthle-cell cancer (HCC) is a variant of follicular thyroid cancer and is rare, representing 3-7% of all thyroid cancer. It has been noted that HCC tends to be more aggressive, is more likely to spread to local lymph nodes or other distant organs and to recur. HCC is overall less responsive to radioactive iodine therapy compared to other types of thyroid cancer. Only small studies of patients with HCC have been conducted in the last several years. The goal of this study is to compare the characteristics and evolution of patients with HCC included in the Surveillance, Epidemiology, and End Results (SEER) database and to also evaluate prognostic factors in HCC patients. The study analyzed data from 18 patient registries in the US that represent the general US population.

#### THE FULL ARTICLE TITLE

Goffredo Pet al. Hurthle cell carcinoma. Cancer. July 11, 2012 [Epub ahead of print]. doi: 10.1002/cncr.27770.

#### SUMMARY OF THE STUDY

The study evaluated 3311 patients with HCC and 59,585 patients with other types of thyroid cancer enrolled in the SEER database between 1988 to 2009. HCC was more frequent in men and older patients than other types of thyroid cancer. Patients with HCC presented with more advanced disease with regard to cancer size, local/regional extension and distant metastases than patients with other types of thyroid cancer.

The overall survival rate during the follow up period was 82.1% for patients with HCC and 89.2% for patients with other types of thyroid cancer. Disease-specific survival of patients with HCC has not changed over the past 2 decades while survival for patients with other types of thyroid cancer has improved. Disease-specific death occurred in 5.9% of patients with HCC and in 2.7% of patients with other types of thyroid cancer. Poor prognosis for HCC was strongly associated with not having thyroid surgery and the presence of distant metastatic disease. Improved survival from HCC was associated with small cancers confined to the thyroid without local or distant metastases and administration of postoperative radioactive iodine treatment.

#### WHAT ARE THE IMPLICATIONS OF THIS STUDY?

This population study based on the SEER database is the largest and most updated study of patients with HCC and confirms that HCC presents with more advanced disease and has a shorter survival as compared with other types of thyroid cancer. Therefore, HCC should be treated aggressively with the expectation of a worse prognosis than other types of thyroid cancer.

— Alina Gavrilă, MD

#### ATA THYROID BROCHURE LINKS

Thyroid cancer: <http://www.thyroid.org/cancer-of-the-thyroid-gland>

Radioactive Iodine Therapy: <http://www.thyroid.org/radioactive-iodine>

Thyroid Surgery: <http://thyroid.org/patients/patient-brochures/surgery.html>

#### ABBREVIATIONS & DEFINITIONS

**Papillary thyroid cancer (PTC):** the most common type of thyroid cancer.

**Follicular thyroid cancer (FTC):** the second most common type of thyroid cancer.

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

**SEER:** Surveillance, Epidemiology and End Results program, a nation-wide anonymous cancer registry generated by the National Cancer Institute that contains information on 26% of the United States population. Website: <http://seer.cancer.gov/>

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

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## **THYROID CANCER**, continued

**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).

**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.



## 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.

### WHO WE ARE

#### AMERICAN THYROID ASSOCIATION

[www.thyroid.org](http://www.thyroid.org)

ATA Patient Resources: <http://www.thyroid.org/patients/>

Find a Thyroid Specialist: [www.thyroid.org](http://www.thyroid.org)

Phone (toll-free): 1-800-THYROID

e-mail: [thyroid@thyroid.org](mailto:thyroid@thyroid.org)

**ATA Mission:** The ATA leads in promoting thyroid health and understanding thyroid biology.

**ATA Vision:** The ATA is the leading organization focused on thyroid biology and the prevention and treatment of thyroid disorders through excellence and innovation in research, clinical care, education, and public health.

**ATA Values:** The ATA values scientific inquiry, clinical excellence, public service, education, collaboration, and collegiality.

To further our mission, vision and values the ATA sponsors “Friends of the ATA” online to advance the information provided to patients and the public such as this publication, *Clinical Thyroidology for Patients*. We welcome your support.

#### GRAVES’ DISEASE AND THYROID FOUNDATION

[www.gdatf.org](http://www.gdatf.org)

Phone (toll-free): 1-877-NGDF-123 or 643-3123

e-mail: [Gravesdiseasefd@gmail.com](mailto:Gravesdiseasefd@gmail.com)

Founded in 1990, the Graves’ Disease Foundation offers support and resources to Graves’ disease patients, their families, and health care professionals. Their mission is to find the cause of and the cure for Graves’ thyroid disease through research, to improve the quality of life for persons with Graves’ disease and their caregivers and to educate persons with Graves’ disease, their caregivers, healthcare professionals, and the general public about Graves’ disease and its treatment. The web site features a monitored bulletin board.

#### LIGHT OF LIFE FOUNDATION

[www.checkyourneck.com](http://www.checkyourneck.com)

email: [info@checkyourneck.com](mailto:info@checkyourneck.com)

The Light of Life Foundation, founded in 1997, is a nonprofit organization that strives to improve the quality of life for thyroid cancer patients, educate the public and professionals about thyroid cancer, and promote research and development to improve thyroid cancer care.

#### THYCA: THYROID CANCER SURVIVORS’ ASSOCIATION, INC.

[www.thyca.org](http://www.thyca.org)

Phone (toll-free): 877 588-7904

e-mail: [thyca@thyca.org](mailto:thyca@thyca.org)

ThyCa: Thyroid Cancer Survivors’ Association, Inc., founded in 1995, is an international nonprofit organization, guided by a medical advisory council of renowned thyroid cancer specialists, offering support and information to thyroid cancer survivors, families, and health care professionals worldwide.





## **ATA Alliance for Thyroid Patient Education CALENDAR OF EVENTS**

Educational forums, patient support groups and other patient-oriented meetings

### **ATA Conferences** [www.thyroid.org](http://www.thyroid.org)

Nothing is scheduled at this time. Please visit the website for updates.

### **Graves' Disease Conferences** [www.gdatf.org](http://www.gdatf.org)

Nothing is scheduled at this time. Please visit the website for updates.

### **Light of Life Foundation** [www.checkyourneck.com](http://www.checkyourneck.com)

Ongoing — [www.checkyourneck.com](http://www.checkyourneck.com)

#### **Thyroid Cancer Awareness campaign with Cindy Crawford and Brooke Shields**

June 12, 2010 — a previous symposium available online at:

<http://www.checkyourneck.com/About-Thyroid-Cancer/Thyroid-Cancer-Symposium-Presentations>

#### **Thyroid Cancer Symposium Presentations: What's New in Thyroid Cancer? A Day for Patients and Their Families**

Please visit the Light of Life Foundation website to view the Patient Educational Symposium which took place in NYC in 2010. As part of the Patient Educational Program these online presentations provide valuable information in hopes that patients everywhere can gain further information and support about their disease.

November 17, 2012 — New York, NY

**Annual Light of Life Foundation Patient Symposium.** Details at [www.checkyourneck.com](http://www.checkyourneck.com)

### **ThyCa Conferences** [www.thyca.org](http://www.thyca.org)

Every Month

#### **ThyCa Support Group Meetings around the United States and in Canada,**

**Costa Rica, and Philippines.** Complete list of groups, meetings, and contacts at [www.thyca.org/sg/local](http://www.thyca.org/sg/local)