

# Clinical THYROIDOLOGY FOR PATIENTS



AMERICAN  
THYROID  
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VOLUME 5 • ISSUE 6 • 2012

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It is well known that overt thyroid disease can affect the heart function and circulation. However, controversial results have been reported in patients with subclinical thyroid dysfunction. The goal of this study is to evaluate the association between subclinical hyperthyroidism and hypothyroidism and the development of heart problems in a large study of older patients with cardiovascular risk factors or preexisting cardiovascular disease.		Barbesino G et al. Thyroid lobe ablation with radioactive iodine as an alternative to completion thyroidectomy after hemithyroidectomy in patients with follicular thyroid carcinoma: long-term follow-up. <i>Thyroid.</i> December 27, 2011 [Epub ahead of print].	
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**Clinical Thyroidology for Patients**

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# CLINICAL THYROIDOLOGY FOR PATIENTS

A publication of the American Thyroid Association

VOLUME 5 • ISSUE 6 • 2012

## 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.

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

- Does having celiac disease affect your dose of levothyroxine?
- If you are pregnant, does your thyroid function affect your baby?
- Does subclinical thyroid disease cause heart problems in older people?
- How safe is steroid treatment in thyroid eye disease?
- Do you have to stop amiodarone if you have amiodarone-induced hyperthyroidism?
- Can repeat surgery be avoiding in thyroid cancer patients who initially had a lobectomy?

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

**HOW TO NAVIGATE THIS DOCUMENT:** The Table of Contents and the Bookmarks are linked to the articles. To navigate, move your cursor over the article title you wish to see (either in the Contents or in the Bookmarks panel) and the hand will show a pointing finger, indicating a link. Left-click the title and the article will instantly appear. To return to the Contents, move the cursor to the bottom of the page and left-click [Back to Table of Contents](#).



## THYROID HORMONE THERAPY

### The effect of celiac disease on the absorption of levothyroxine tablets

#### BACKGROUND

One of the most common causes of hypothyroidism is the autoimmune disease Hashimoto's thyroiditis. This occurs when the body generates antibodies that attack and destroy the thyroid. Hashimoto's thyroiditis is associated with other autoimmune diseases, including celiac disease. Celiac disease is an autoimmune disorder that affects the stomach when those affected eat gluten, a protein found in certain grains such as wheat. These patients develop antibodies that attack cells of the small intestine. While patients with celiac disease may exhibit severe stomach problems, some may have symptoms so mild as to not be aware there is a problem. Most of the symptoms of celiac disease improve on a gluten-free diet. In many patients with celiac disease there is some evidence of problems absorbing some nutrients and/or medications. In particular, celiac patients with hypothyroidism may have poor absorption of levothyroxine. In fact, problems absorbing levothyroxine can lead to a diagnosis of celiac disease. This study examined the dose of levothyroxine required to treat hypothyroidism in patients with Hashimoto's thyroiditis alone and with Hashimoto's thyroiditis and celiac disease. In addition, the effect of a gluten-free diet on the absorption of levothyroxine in these patients was examined.

#### THE FULL ARTICLE TITLE

Virili C et al. Atypical celiac disease as cause of increased need for thyroxine: a systematic study. *J Clin Endocrinol Metab.* January 11, 2012 [Epub ahead of print]. doi:10.1210/jc.2011-1851.

#### SUMMARY OF THE STUDY

This study examined 68 patients with Hashimoto's thyroiditis alone and 35 patients with Hashimoto's thyroiditis and celiac disease. The average dose of levothyroxine needed to treat patients with Hashimoto's thyroiditis alone was lower than the average dose required to treat patients with Hashimoto's and celiac disease. When the patients with celiac disease went on a gluten-free diet while staying on the same dose of thyroxine, their TSH level decreased, indicating that their absorption of thyroxine had improved.

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

Patients with even mild celiac disease may need a higher dose of thyroxine and this increased requirement may be reversed by a gluten-free diet. Also, if a patient with hypothyroidism requires a very large dose of thyroxine, especially if they were previously doing well on a lower dose, the possibility that they have celiac disease should be considered.

— Glenn Braunstein, MD

#### ATA THYROID BROCHURE LINKS

Hypothyroidism: [http://thyroid.org/patients/patient\\_brochures/hypothyroidism.html](http://thyroid.org/patients/patient_brochures/hypothyroidism.html)

Thyroid Hormone Treatment: [http://thyroid.org/patients/patient\\_brochures/hormonetreatment.html](http://thyroid.org/patients/patient_brochures/hormonetreatment.html)

#### ABBREVIATIONS & DEFINITIONS

**Autoimmune disorders:** A diverse group of disorders that are caused by antibodies that get confused and attack the body's own tissues. The disorder depends on what tissue the antibodies attack. Graves' disease and Hashimoto's thyroiditis are examples of autoimmune thyroid disease. Other Autoimmune disorders include: type I diabetes mellitus, Addison's disease (adrenal insufficiency), vitiligo (loss of pigment of some areas of the skin), systemic lupus

erythematosus, pernicious anemia (B12 deficiency), celiac disease, inflammatory bowel disease, myasthenia gravis, multiple sclerosis and rheumatoid arthritis.

**Celiac disease:** an autoimmune disorder of the small intestine that occurs in people of all ages from middle infancy onward. The antibodies that attack the small intestine are only active when the patients ingest the protein gluten, which is present in many grains, including wheat. Avoiding gluten in the diet markedly improves the symptoms of celiac disease.

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## **THYROID HORMONE THERAPY, continued**

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

**Primary hypothyroidism:** the most common cause of hypothyroidism caused by failure of the thyroid gland.

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

**Levothyroxine:** the synthetic form of the major hormone produced by the thyroid gland, available in pill form as Levoxyl™, Synthroid™, Levothroid™ and generic preparations.

**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 AND PREGNANCY

### Thyroid function in newborns at birth is related to mothers' thyroid function during early pregnancy

#### BACKGROUND

Normal thyroid function is needed during pregnancy in both the mother and the baby for normal brain development in the baby. This is especially important early in pregnancy before the baby's thyroid starts working when all of the thyroid hormone comes from the mother. If the mother is hypothyroid, it can affect the baby even though the baby's thyroid function is normal. The most common cause of hypothyroidism is Hashimoto's thyroiditis and this can be tested for by measuring thyroid antibodies (TPO antibodies) in mothers' blood. This study was done to see if mothers' thyroid function in early pregnancy is related to their baby's thyroid function at birth. The study also measured how many women were hypothyroid and how many had TPO antibodies in their blood.

#### THE FULL ARTICLE TITLE:

Medici M et al. Maternal early pregnancy and newborn thyroid hormone parameters: the Generation R Study. *J Clin Endocrinol Metab* 2011;97(2):646-52.

#### SUMMARY OF THE STUDY

This was a study of over 5000 women in the Netherlands who delivered a healthy baby between 2002-2006. Thyroid tests were measured in mothers' blood during early pregnancy and in their newborns' umbilical cord blood at birth. The results show that newborn thyroid

function was strongly related to their mothers' thyroid function in pregnancy. Also, almost 9% of the women were hypothyroid during early pregnancy. Since hypothyroidism is frequently related to having TPO antibodies in the blood, women who have known TPO antibodies (such as in a prior diagnosis of Hashimoto's thyroiditis) may benefit from having thyroid function checked when planning a pregnancy.

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

This study shows that early in pregnancy, thyroid function of the developing baby is directly related to their mothers' thyroid function. This is important since early pregnancy is a crucial period of brain development. The results suggest that pregnant women need to maintain normal thyroid function, especially during the first trimester. This may be even more important for women with TPO antibodies in the blood, who are at higher risk of developing hypothyroidism than women without TPO antibodies.

— Angela Leung, MD

#### ATA THYROID BROCHURE LINKS

Hypothyroidism: [http://thyroid.org/patients/patient\\_brochures/hypothyroidism.html](http://thyroid.org/patients/patient_brochures/hypothyroidism.html)

Thyroid and Pregnancy: [http://thyroid.org/patients/patient\\_brochures/pregnancy.html](http://thyroid.org/patients/patient_brochures/pregnancy.html)

#### ABBREVIATIONS & DEFINITIONS

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

**TPO antibodies:** These are antibodies that attack the thyroid instead of bacteria and viruses. They are

a marker for autoimmune thyroid disease, which is the main underlying cause for hypothyroidism and hyperthyroidism in the United States.

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





## SUBCLINICAL THYROID DISEASE

### Subclinical thyroid disease increases the incidence of heart failure in older persons

#### BACKGROUND

Subclinical thyroid disease is defined by an abnormal TSH in the setting of normal levels of the thyroid hormones. Symptoms in patients with either subclinical hyperthyroidism or subclinical hypothyroidism are generally mild. In contrast, overt thyroid disease is defined by abnormal levels of both the TSH and thyroid hormones and many more symptoms. It is well known that thyroid hormone can affect the heart function and circulation. Prior studies have showed significant heart problems in patients with overt hyperthyroidism and hypothyroidism. However, controversial results have been reported in patients with subclinical thyroid dysfunction. The goal of this study is to evaluate the association between subclinical hyperthyroidism and hypothyroidism and the development of heart problems in a large study of older patients with cardiovascular risk factors or preexisting cardiovascular disease.

#### THE FULL ARTICLE TITLE

Nanchen D et al on behalf of the PROSPER Group. Subclinical thyroid dysfunction and the risk of heart failure in older persons at high cardiovascular risk. *J Clin Endocrinol Metab.* January 11, 2012 [Epub ahead of print].

#### SUMMARY OF THE STUDY

This study measured thyroid levels in 5316 patients who had a history of preexisting cardiovascular disease or cardiovascular risk factors (smoking, hypertension or diabetes). Patients with overt hyperthyroidism or hypothyroidism were not included in this study. An expert committee analyzed the cardiovascular events developed during a 3.2 year follow-up period in this patient population. The mean age of the study population was 75

years with 5046 patients (95%) having normal thyroid levels, 199 patients (3.7%) having subclinical hypothyroidism and 71 patients (1.3%) having subclinical hyperthyroidism. The hospitalization rate for heart failure was higher in patients with subclinical hyperthyroidism as compared with those patients with normal thyroid levels. The rate of heart failure was also significantly higher in patients with subclinical hypothyroidism as compared with patients with normal thyroid levels. There was no difference in the development of other heart problems in any of the groups.

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

Older patients with preexisting cardiovascular disease or cardiovascular risk factors and subclinical thyroid disease have a higher rate of heart failure and hospitalization for heart failure when compared to patients with normal thyroid levels. This study suggests that older patients with subclinical hyperthyroidism and subclinical hypothyroidism should be treated to normalize their TSH levels in order to prevent the development of heart failure.

—Alina Gavrilă, MD

#### ATA THYROID BROCHURE LINKS

Hypothyroidism: [http://thyroid.org/patients/patient\\_brochures/hypothyroidism.html](http://thyroid.org/patients/patient_brochures/hypothyroidism.html)

Hyperthyroidism: [http://thyroid.org/patients/patient\\_brochures/hyperthyroidism.html](http://thyroid.org/patients/patient_brochures/hyperthyroidism.html)

Thyroid Function Tests: [http://thyroid.org/patients/patient\\_brochures/function\\_tests.html](http://thyroid.org/patients/patient_brochures/function_tests.html)

Thyroid Hormone Treatment: [http://thyroid.org/patients/patient\\_brochures/hormonetreatment.html](http://thyroid.org/patients/patient_brochures/hormonetreatment.html)

#### ABBREVIATIONS & DEFINITIONS

**Hyperthyroidism:** a condition where the thyroid gland is overactive and produces too much thyroid hormone. Hyperthyroidism may be treated with antithyroid medications (Methimazole, Propylthiouracil), radioactive iodine or surgery.

**Subclinical Hyperthyroidism:** a mild form of hyperthyroidism where the only abnormal hormone level is a decreased TSH. Elderly and symptomatic patients are usually treated, while younger and asymptomatic patients can be monitored without treatment.

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## **SUBCLINICAL THYROID DISEASE, continued**

**Overt Hyperthyroidism:** clear hyperthyroidism characterized by a decreased TSH and an increased  $T_4$  level. All patients with overt hyperthyroidism are usually treated.

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

**Subclinical Hypothyroidism:** a mild form of hypothyroidism where the only abnormal hormone level is an increased TSH. There is controversy as to whether this should be treated or not.

**Overt Hypothyroidism:** clear hypothyroidism characterized by an increased TSH and a decreased  $T_4$  level. All patients with overt hypothyroidism are usually treated with thyroid hormone pills.

**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.

**Thyroxine ( $T_4$ ):** the major hormone secreted by the thyroid gland. Thyroxine is broken down to produce triiodothyronine  $T_3$  which causes most of the effects of the thyroid hormones.



## GRAVES' DISEASE

### How safe is steroid treatment in thyroid eye disease?

#### BACKGROUND

Graves' disease is the most common cause of hyperthyroidism in the United States. Graves' disease can also affect the eyes, causing inflammation of the eyes, eye muscles and the surrounding tissues (thyroid eye disease). Symptoms of thyroid eye disease include dry eyes, red eyes, bulging of the eyes and double vision. Steroids are potent anti-inflammatory drugs and have been used for many years in the treatment of thyroid eye disease. There is still much information to be learned about the safety of steroids for this purpose. There is also a need to assess safety and effectiveness of oral versus intravenous (IV) therapy. This study was done to assess the safety of steroids for the treatment of thyroid eye disease.

#### THE FULL ARTICLE TITLE

Marcocci C et al. Fatal and non-fatal adverse events of glucocorticoid therapy for Graves' orbitopathy: a questionnaire survey among members of the European Thyroid Association. *Eur J Endocrinol* 2012;166:247-53. Epub November 4, 2011.

#### SUMMARY OF THE STUDY

This study was the analysis of the results of a questionnaire that was completed by 128 members of the European Thyroid Association who were asked about their practice in using steroids for the treatment of thyroid eye disease in patients with Graves' disease. In particular, the physicians

were asked about the number of fatal and non-fatal adverse effects to patients treated with either oral or IV steroids. The frequency of side effects was higher in patients treated with oral steroids vs. IV steroids (82% vs. 39%). However, there were more deaths in patients that were treated with IV steroids, as a total of 7 patients died: 4 of liver failure, 2 of stroke and 1 of pulmonary embolism. Two patients who were treated with oral steroids died, both due to stroke.

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

Steroid therapy can be very beneficial to the patient suffering from thyroid eye disease. However, this study demonstrates that steroids should be reserved for patients with severe cases of thyroid eye disease because of the frequency of adverse effects. While patients who receive IV steroids may have less non-fatal adverse effects, they need to be monitored closely due to a higher risk of death. As with all medications, the beneficial effect of treating patients with the thyroid eye disease with steroids needs to be balanced with the risks of these powerful drugs.

— Heather Hofflich, DO

#### ATA THYROID BROCHURE LINKS

Graves' disease: [http://thyroid.org/patients/patient\\_brochures/graves.html](http://thyroid.org/patients/patient_brochures/graves.html)

#### ABBREVIATIONS & DEFINITIONS

**Thyroid eye disease (TED):** also known as Graves ophthalmopathy or Graves' orbitopathy. 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.

**Steroids:** these are powerful anti-inflammatory and immunosuppressive drugs. Steroids have been used for the treatment of many diseases associated with inflammation.





## HYPERTHYROIDISM

### Amiodarone may be continued in patients with amiodarone-induced hyperthyroidism treated with prednisone

#### BACKGROUND

Amiodarone is a drug commonly used to treat some irregular heart rhythms. However, because this drug contains a large amount of iodine, it can cause thyroid problems, including both hyperthyroidism and hypothyroidism. Amiodarone can cause hyperthyroidism where the thyroid is overactive (called type 1 amiodarone-induced thyrotoxicosis (AIT)). It can also lead to hyperthyroidism through a destructive effect on thyroid cells, a form of thyroiditis called AIT type 2. In most cases, the treatment of amiodarone-induced thyrotoxicosis (AIT) requires stopping the amiodarone in addition to other measures, such as antithyroid drugs and prednisone. Perchlorate, a chemical that causes the thyroid to discharge iodine from the gland has occasionally been used in the treatment of both type 1 and 2 AIT. The aims of this study were to determine that it may be possible to continue amiodarone in patients with AIT type 2 and to determine if perchlorate was useful for its treatment.

#### THE FULL ARTICLE TITLE:

Eskes SA et al. Treatment of amiodarone-induced thyrotoxicosis type 2: a randomized clinical trial. *J Clin Endocrinol Metab.* 2012; 97(2): 499-506.

#### SUMMARY OF THE STUDY

Patients with AIT type 2 and who agreed to continue amiodarone were recruited from 10 centers in The Netherlands. They were randomly assigned to one of three treatment groups: group A, prednisone 30 mg/day plus methimazole 30 mg/day; group B, sodium perchlorate 500 mg twice daily plus methimazole 30 mg/day; group C, prednisone 30 mg/day plus sodium perchlorate 500

mg twice daily plus methimazole 30 mg/day. Follow-up evaluation occurred at 4-week intervals to 28 weeks, then at 8-week intervals up to 2 years. Medication was adjusted based on thyroid-function tests.

Twelve patients were randomly assigned to groups A, 14 to group B and 10 to group C. Patients in group A reached normal T<sub>4</sub> levels in 4 weeks while it took 12 weeks for all other groups. The serum TSH normalized with the therapy in all the patients initially receiving prednisone (groups A and C), but prednisone had to be added to 4 of the 14 patients in group B. Recurrent hyperthyroidism occurred in 1 patient in group A and in 2 patients in group C.

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

This study suggests that normal thyroid function can be restored with the use of prednisone in patients with AIT type 2 despite continuation of amiodarone, which may be necessary for the treatment of the irregular heart rhythms. The addition of perchlorate in combination with prednisone was no more effective than prednisone alone, so there appears to be no benefit using this drug in patients with AIT.

— M. Regina Castro, MD

#### ATA THYROID BROCHURE LINKS

Hyperthyroidism: [http://thyroid.org/patients/patient\\_brochures/hyperthyroidism.html](http://thyroid.org/patients/patient_brochures/hyperthyroidism.html)

Thyroiditis: [http://thyroid.org/patients/patient\\_brochures/thyroiditis.html](http://thyroid.org/patients/patient_brochures/thyroiditis.html)

#### ABBREVIATIONS & DEFINITIONS

**Methimazole:** an antithyroid medication that blocks the thyroid from making thyroid hormone. Methimazole is used to treat hyperthyroidism, especially when it is caused by Graves' disease.

**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.

**Thyroxine (T<sub>4</sub>):** the major hormone secreted by the thyroid gland. Thyroxine is broken down to produce Triiodothyronine which causes most of the effects of the thyroid hormones.

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## **HYPERTHYROIDISM, continued**

**Amiodarone:** an iodine-rich drug that is commonly used for the treatment of irregular heart rhythms. Amiodarone can cause thyroid problems, including both hypothyroidism and hyperthyroidism.

**Amiodarone induced thyrotoxicosis:** elevated thyroid hormone levels that can occur as a result of excessive iodine from amiodarone resulting in increased thyroid hormone production and secretion or to destruction

of thyroid cells with release of thyroid hormone into the blood.

**Hyperthyroidism:** a condition where the thyroid gland is overactive and produces too much thyroid hormone. Hyperthyroidism may be treated with antithyroid meds (Methimazole, Propylthiouracil), radioactive iodine or surgery.



## THYROID CANCER

### Is radioactive iodine as effective as repeat surgery in thyroid cancer patients who had an initial lobectomy?

#### BACKGROUND

Thyroid nodules are very common and raise the possibility of thyroid cancer when discovered. When a biopsy of the thyroid nodule is indeterminate for thyroid cancer, the surgery recommended is usually removal of the lobe containing the nodule (lobectomy), leaving the opposite lobe. This is because most of the indeterminate nodules turn out not to be cancer. When the pathology does show a cancer, patients usually undergo a repeat surgery to remove the remaining lobe (completion thyroidectomy). This may not be possible in patients with vocal cord injury after the lobectomy or those who refuse further surgery. Instead, low dose radioactive iodine therapy can be used to destroy the remaining lobe. This study compared the overall outcomes of thyroid cancer patients after completion thyroidectomy with those who had radioactive iodine therapy to destroy the remaining lobe.

#### THE FULL ARTICLE TITLE:

Barbesino G et al. Thyroid lobe ablation with radioactive iodine as an alternative to completion thyroidectomy after hemithyroidectomy in patients with follicular thyroid carcinoma: long-term follow-up. *Thyroid*. December 27, 2011 [Epub ahead of print].

#### SUMMARY OF THE STUDY

The study included 126 thyroid cancer patients followed for up to 24 years at Massachusetts General Hospital. A total of 29 patients had a total thyroidectomy and

97 patients had an initial lobectomy. Of those with a lobectomy, 37 received radioactive iodine ablation of the remaining lobe while 68 had a completion thyroidectomy to remove the remaining lobe.

Overall, there was no difference in terms of recurrence or persistence of cancer in any of the treatment groups. The patients who underwent radioactive iodine ablation did have higher persistent thyroglobulin levels as compared to those who had surgery.

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

This study suggests that radioiodine ablation of the remaining lobe can be used as an alternative to further surgery in patients who initially had only a lobectomy for thyroid cancer. If these results are confirmed, radioactive iodine therapy may be preferable to a repeat surgery.

— Mona Sabra, MD

#### ATA THYROID BROCHURE LINKS

Thyroid cancer: [http://thyroid.org/patients/patient\\_brochures/cancer\\_of\\_thyroid.html](http://thyroid.org/patients/patient_brochures/cancer_of_thyroid.html)

Radioactive Iodine Therapy: [http://thyroid.org/patients/patient\\_brochures/radioactive.html](http://thyroid.org/patients/patient_brochures/radioactive.html)

Thyroid Surgery: [http://thyroid.org/patients/patient\\_brochures/surgery.html](http://thyroid.org/patients/patient_brochures/surgery.html)

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#### ABBREVIATIONS:

**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 fine needle aspiration biopsy (FNAB):** a simple procedure that is done in the doctor's office to determine if a thyroid nodule is benign (non-cancerous) or cancer. The doctor uses a very thin needle to withdraw cells

from the thyroid nodule. Patients usually return home or to work after the biopsy without any ill effects.

**Indeterminate thyroid biopsy:** this happens usually when the diagnosis is a follicular or hurthle cell lesion. Follicular and hurthle cells are normal cells found in the thyroid. Current analysis of thyroid biopsy results cannot differentiate between follicular or hurthle cell cancer from noncancerous adenomas. This occurs in 15-20% of biopsies and often results in the need for surgery to remove the nodule.

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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.

**Lobectomy:** surgery to remove one lobe of the thyroid.

**Completion thyroidectomy:** surgery to remove the remaining thyroid lobe in thyroid cancer patients who initially had a lobectomy.



## 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.

### **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)

#### September 2012 — **Thyroid Cancer Awareness Month**

Worldwide observance sponsored by ThyCa: Thyroid Cancer Survivors' Association, Inc., with many partnering organizations. Details at [www.thyca.org](http://www.thyca.org)

October 19–21, 2012 — Chicago, Illinois.

#### **The 15th International Thyroid Cancer Survivors' Conference**

Sponsored by ThyCa: Thyroid Cancer Survivors' Association, Inc. Details at [www.thyca.org](http://www.thyca.org)

October 20, 2012 — Chicago, Illinois

#### **The 10th Annual Dinner/Auction Fundraiser for Thyroid Cancer Research, in conjunction with the 15th International Thyroid Cancer Survivors' Conference**

Sponsored by ThyCa: Thyroid Cancer Survivors' Association, Inc. Details at [www.thyca.org](http://www.thyca.org)