January is Thyroid Awareness Month

Kim Alexis
How she overcame her thyroid problem

Read Real Thyroid Patient Stories

Learn About:
- Thyroid Cancer
- Hypothyroidism
- Hyperthyroidism
- Thyroid Nodules
- Hashimoto’s Thyroiditis
- And Much More!

Prediabetes

Neck Check
30 seconds that could save a life

Developing a Plan of Attack
On Target: A Guide to Managing Type 2 Diabetes

Over 20 million Americans have type 2 diabetes. This DVD/guidebook will provide you with critical information to help manage diabetes by teaching you:

- What type 2 diabetes is
- How to test your blood sugar levels
- How diet and exercise affect health
- What types of medications might help

A Guide to Type 1 Diabetes

More than 1 million people in the United States have type 1 diabetes. This form of diabetes is often diagnosed in childhood.

Many new ways to manage diabetes are now available, but having so many choices can be confusing. This DVD/guidebook will help you:

- Learn more about type 1 diabetes
- Understand how to monitor your blood sugar levels
- Learn about insulin and how to use it
- Get help and feel better

To order your complimentary copy of these DVDs, please e-mail the AACE Public & Media Relations Department at ssenn@aace.com.
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Power of Prevention®, published by the American College of Endocrinology (ACE), the educational and scientific arm of the American Association of Clinical Endocrinologists (AACE), is dedicated to promoting the art and science of clinical endocrinology for the improvement of patient care and public health. Designed as an aid to patients, Power of Prevention® includes current information and opinions on subjects related to endocrine health. The information in this publication does not dictate an exclusive course of treatment or procedure to be followed and should not be construed as excluding other acceptable methods of practice. Variations taking into account the needs of the individual patient, resources, and limitations unique to the institution or type of practice may be appropriate.

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AACE is a professional medical organization with more than 6,000 members in the United States and 84 other countries. Founded in 1991, AACE is dedicated to the optimal care of patients with endocrine problems. AACE initiatives inform the public about endocrine disorders. AACE also conducts continuing education programs for clinical endocrinologists, physicians whose advanced, specialized training enables them to be experts in the care of endocrine diseases, such as diabetes, thyroid disorders, growth hormone deficiency, osteoporosis, cholesterol disorders, hypertension and obesity.

ACE is a scientific and charitable medical organization dedicated to promoting the art and science of clinical endocrinology for the improvement of patient care and public health.
Dear Reader,

Thank you for picking up the very first copy of Power of Prevention® Magazine. Inside, I hope that you will find useful information related to common endocrine disorders.

Power of Prevention® is the patient education and awareness outreach of the American College of Endocrinology (ACE). ACE is the educational arm of the American Association of Clinical Endocrinologists (AACE), the world’s largest group of practicing endocrinologists. Our goal is to provide you with the information you need to talk to your endocrinologist about your endocrine health.

What is Power of Prevention®? Endocrinologists specialize in many chronic conditions such as diabetes, thyroid disease, osteoporosis, and polycystic ovarian syndrome (PCOS). Many of these conditions can be prevented, delayed, or reduced in severity through preventive care. This includes physical fitness and nutrition, but also includes early diagnosis and treatment.

The “Power” refers to your ability to manage your condition. Together with your doctor, you have the “Power” to prevent many endocrine conditions or their complications. You have the “Power” to live a normal, healthy lifestyle. You have the “Power” to define your condition, instead of letting your condition define you.

This month, the Power of Prevention® is focused on one of the most important endocrine glands, the thyroid. The thyroid is a small, butterfly shaped gland located at the base of the neck. This little gland plays a big role in how your body functions. If it is making too much hormone, you can suffer from accelerated heart rate, hair loss, bulging eyes, and more. But if the thyroid is making too little hormone, you could experience weight gain, fatigue, cold intolerance and more.

The January issue of Power of Prevention® coincides with Thyroid Awareness Month. This issue covers each of these conditions, including symptoms, causes, diagnoses, and treatments. We also offer some information on thyroid nodules, thyroid cancer, and radioactive iodine treatment for some thyroid problems.

I would like to acknowledge Abbott Laboratories for their continued support of Thyroid Awareness Month. For the past 15 years Abbott has supported Thyroid Awareness Month, and without this generous support neither the FREE magazine nor Thyroid Awareness Month would have been possible.

However, the articles and patient materials contained in the magazine have been developed independently by AACE experts, with no preference or bias towards any drug or pharmaceutical manufacturer. Furthermore, this magazine is for informational purposes only. For issues of an individual clinical nature, please consult your physician.

Again, thank you for picking up Power of Prevention® Magazine. I hope that you will find it useful and informative. I’d also like to know your thoughts on the magazine, and how we can make it even better. Send me an e-mail at feedback@powerofprevention.com to share your feedback.

Thank you,

Hossein Gharib, MD, MACP, MACE
President, American College of Endocrinology
IT WAS A RELATIVELY WARM August morning when I first met supermodel Kim Alexis. I was with a production crew arriving at Kim’s house to tape a public service announcement to help raise awareness of thyroid disease. It didn’t take me long to realize that Kim Alexis isn’t just a supermodel, she is also a supermom.

As it turned out, we were arriving at Kim’s house on the day that she was packing up her house for a move. There was a moving truck in the driveway and boxes as far as the eye could see. But Kim maneuvered all of this gracefully, taking time to work with the crew on lighting, locations, and everything, while also packing boxes, managing a house full of strangers, and taking care of her teenage son.

Kim did all of this with an almost endless supply of energy; bouncing from one activity to the next without pause, keeping the rest of us on our toes. But there’s a reason for Kim’s high energy level; she doesn’t take it for granted. That’s because just a few years ago, she was losing her energy completely.

The fashion world of a supermodel is non-stop. So is the life of a mother. So when Kim noticed that she was running out of energy for no apparent reason, she grew concerned. That’s when she saw her endocrinologist and discovered that she had a thyroid problem. Specifically, she had a condition called Hashimoto’s thyroiditis, a condition that leaves the body with too little thyroid hormone.

Kim began taking medication to balance her thyroid levels, and today she says she feels ten years younger. You can hear Kim’s own personal message at our Web site, www.powerofprevention.com.
Kim’s story is a common one. More than 25 million Americans have some form of thyroid disease. The most common condition is an underactive thyroid. However, signs and symptoms of an underactive thyroid can sometimes be overlooked. Things such as unexplained fatigue, forgetfulness, weight gain, and dry, itchy skin can all be features of hypothyroidism.

Of those 25 million people with thyroid disease, more than half remain undiagnosed. That means more than 12 million people are experiencing symptoms like Kim, and don’t know what is causing them.

For many thyroid patients, the solution can be as simple as a thyroid hormone replacement pill. That was the case with Kim. Within a few months of beginning her treatment, she felt better and noticed the fatigue and other symptoms she had been experiencing had gone away.

There is no permanent cure for thyroid disease. In fact, once you are on the proper medication, you’ll want to see your endocrinologist regularly to make sure you are keeping your levels in check. Often, as the body changes, different levels of thyroid hormone will be needed to ensure proper levels in your body.

An endocrinologist is a thyroid specialist. If you need to find an endocrinologist in your area, log on to powerofprevention.com, and click on “Find an Endocrinologist.” You can search by location and specialty to find the doctor that is right for you.

“…when Kim noticed that she was running out of energy for no apparent reason, she grew concerned. That’s when she saw her endocrinologist and discovered that she had a thyroid problem.”
Living in New York City can be chaotic for anyone, but the constant motion of the city can be especially overwhelming for someone suffering from a thyroid dysfunction. Paloma Nunziata knows this first-hand.

Nunziata is a social worker living in Manhattan who was recently diagnosed with a thyroid disorder. Before her diagnosis, Nunziata was like many other New Yorkers. She commuted from her home in Manhattan to her job in the city. As a social worker, Nunziata visited clients’ houses across the city.

Work isn’t the only thing that keeps Nunziata busy. She enjoys snowboarding in upstate New York and traveling to exotic locations to surf. In May 2008, Nunziata traveled to Costa Rica to go surfing. The excursion was great, but Nunziata felt different than usual when she returned. Weeks after the trip, she was still tired and her bones and joints were abnormally achy.

“I was really sore, and I never stopped being sore,” Nunziata said.

At the beginning of September, thinking she had mononucleosis, Nunziata made an appointment to see her regular physician. After a series of blood tests, this doctor referred her to an endocrinologist. Nunziata was diagnosed with Graves’ disease, an autoimmune disease that is caused by an overactive thyroid and is most common among women. Graves’ disease causes the thyroid to produce an excessive amount of thyroid hormone, and it frequently results in hyperthyroidism. This disease is treatable, but its effects often disrupt daily routines.

“I was worried about not being able to be active and the treatments were daunting,” Nunziata said.

There are two common treatment options for hyperthyroid disorders - anti-thyroid medications and radioiodine therapy. Anti-thyroid drugs slow thyroid hormone production and are taken daily. Radioiodine therapy uses radioactive iodine to destroy the diseased thyroid gland and create a hypothyroid condition that can be more easily controlled with thyroid hormone replacement therapy.

Nunziata evaluated her options with her endocrinologist and decided to start anti-thyroid drug treatment. She began taking propylthiouracil (PTU) at the end of September. Nunziata has reacted very well to the anti-thyroid drugs.

“I was supposed to be on the medications for a year, but I’m already responding so well. It’s very surprising,” said Nunziata, “I feel 90 percent back to normal.”

Even though Nunziata has made a few adjustments to accommodate the effects of the disease, it hasn’t changed her outlook on life. She left her job that she commuted to across the city and found a position closer to home. This new job also allows her to be more sedentary, but still work as a therapist in the same capacity. Initially, Nunziata’s endocrinologist told her she might have to reconsider snowboarding and surfing, but Nunziata remains optimistic. With her disease under control, Nunziata can’t wait to travel back to Costa Rica, and she’s looking forward to seeing snow.

“I don’t know if a full recovery is possible, but I’m hopeful.”
KELLY FORMAN IS NO STRANGER to adversity—she cared for her mother as she lost a hard-fought battle to breast cancer in 2002. A year later, Forman was diagnosed with thyroid cancer.

It began after she saw a protrusion in her neck, mostly by coincidence. She noticed that when she wore jewelry around her neck, it rested differently than it used to. Concerned, she met with her physician to get some answers.

“At the time, I suspected it was lymphoma,” Forman said. “Although my doctor wasn’t convinced.”

So testing began. Her doctor ordered a blood test, which didn’t reveal anything out of the ordinary, ruling out lymphoma or a thyroid condition.

A couple of years passed and Forman forgot about her own troubles. She helped care for her mother, relocating from Florida to the mountains of North Carolina. She paid little attention to the knot in her neck.

During that time, the lump was still noticeable. But Forman “didn’t think it was anything too serious, and kind of just forgot about it.”

While meeting with her doctor in Boone, North Carolina, he noticed the lump and began to ask questions. “I told him that blood work was done, and everyone came to the consensus that the nodule was benign,” Forman said.

“No, this is a problem,” her doctor replied and ordered a biopsy.

On Christmas Eve in 2003, Forman received the official diagnosis—she suffered from an aggressive case of papillary thyroid cancer.

“There weren’t words to describe how I felt at that moment,” Forman said. “It put a damper on the holidays that year, that’s for sure.”

Having lost her mother to cancer, Forman wasn’t taking any chances with her own health. “I commuted from North Carolina to New York City to get the best possible treatment I could find.”

After consulting with AACE endocrinologist Donald A. Bergman, MD, FACE, treatment began shortly thereafter. Since then, her battle with cancer has followed a more unconventional path than many thyroid cancer patients.

“I suffered three reoccurrences after the initial diagnosis,” Forman said. “Quite honestly, it was difficult at times.”

But she was determined not to let it get her down. For her, getting healthy again became “the central priority of my life.”

These days, Forman feels much better. Her cancer is currently in remission, and she maintains periodic appointments with Dr. Bergman.

She’s also quick to advise her friends that a “lump in the throat” may be much more than a fashion faux pas and may warrant attention from their physician.

“It’s such a subtle, little thing that can easily go unnoticed,” Forman said. “But if you suspect something may be wrong, get it checked.”

(Continued on page 26)
Every time you look in the mirror, a key to your well-being is staring back at you: your thyroid gland. The thyroid gland is a small, butterfly-shaped gland located in the lower front of the neck, above the collarbones, and below the voice box (larynx). Your thyroid gland makes hormones that help control the function of many of your body’s organs, including your heart, brain, liver, kidneys, and skin. Making sure that your thyroid gland is healthy is important to your body’s overall well-being.

Some patients who have an enlarged thyroid gland may also produce too much or too little thyroid hormone. Because many symptoms of thyroid imbalance may be hard to recognize and may be mistaken for symptoms caused by other conditions, the best way to know for sure about your thyroid health is to ask your doctor for a TSH (thyroid-stimulating hormone) test, a simple blood test that measures whether your thyroid gland is functioning normally. If you have a family member with thyroid disease, are over the age of 35, or have any symptoms or risk factors associated with thyroid disease, you should talk to your doctor about getting a TSH test.

It’s not difficult to keep your thyroid in balance, but you need to know your numbers. If you are diagnosed with thyroid disease, be sure to take your thyroid medicine every day, as instructed by your doctor, and refill your prescription on time so that you don’t miss any doses. Your doctor may want to run a TSH test every six months to monitor your thyroid levels to ensure that you receive the optimal dose of thyroid medicine. Use the card below to monitor your levels and discuss them with your doctor.

**How To Take the Thyroid “Neck Check”**

All you will need is:
- A. Glass of water
- B. Handheld mirror

1. Hold the mirror in your hand, focusing on the lower front area of your neck, above the collarbones, and below the voice box (larynx). Your thyroid gland is located in this area of your neck.

2. While focusing on this area in the mirror, tip your head back.

3. Take a drink of water and swallow.

4. As you swallow, look at your neck. Check for any bulges or protrusions in this area when you swallow. Reminder: Don’t confuse the Adam’s apple with the thyroid gland. The thyroid gland is located further down on your neck, closer to the collarbone. You may want to repeat this process several times.

5. If you do see any bulges or protrusions in this area, see your physician. You may have an enlarged thyroid gland or a thyroid nodule and should be checked to determine whether cancer is present or if treatment for thyroid disease is needed.
WHAT IS HYPOTHYROIDISM?
Hypothyroidism (underactivity of the thyroid gland) occurs when the thyroid gland produces less than the normal amount of thyroid hormone. The result is the “slowing down” of many bodily functions. Although hypothyroidism may be temporary, it usually is a permanent condition. Of the nearly 27 million people suffering from a thyroid condition, most have hypothyroidism.

WHAT ARE THE FEATURES OF HYPOTHYROIDISM?
In its earliest stage, hypothyroidism may cause few symptoms, since the body has the ability to partially compensate for a failing thyroid gland by increasing the stimulation to it, much like pressing down on the accelerator when climbing a hill to keep the car going the same speed. As thyroid hormone production decreases and the body’s metabolism slows, a variety of features may result.

• Pervasive fatigue
• Drowsiness
• Forgetfulness
• Difficulty with learning
• Dry, brittle hair and nails
• Dry, itchy skin
• Puffy face
• Constipation
• Sore muscles
• Weight gain and fluid retention
• Heavy and/or irregular menstrual flow
• Increased frequency of miscarriages
• Increased sensitivity to many medications

WHAT ARE THE MAJOR CAUSES OF HYPOTHYROIDISM?

AUTOIMMUNE THYROIDITIS
(Hashimoto’s thyroiditis—separate brochure available)
The body’s immune system may produce a reaction in the thyroid gland that results in hypothyroidism and, most often, a goiter (enlargement of the thyroid). Other autoimmune diseases may be associated with this disorder, and additional family members may also be affected.

RADIOACTIVE IODINE TREATMENT
Hypothyroidism frequently develops as a desired therapeutic goal after the use of radioactive iodine treatment for hyperthyroidism.

THYROID OPERATION
Hypothyroidism may be related to surgery on the thyroid gland, especially if most of the thyroid has been removed.

MEDICATIONS
Lithium, high doses of iodine, and amiodarone (Cordarone, Pacerone) can cause hypothyroidism.

SUBACUTE THYROIDITIS
This condition may follow a viral infection and is characterized by painful thyroid gland enlargement and inflammation, which results in the release of large amounts of thyroid hormone into the blood. Fortunately, this condition usually resolves spontaneously. The thyroid usually heals itself over several months, but often not before a temporary period of hypothyroidism occurs.

POSTPARTUM THYROIDITIS
Five percent to ten percent of women develop mild to moderate hyperthyroidism within several months of giving birth. Hyperthyroidism in this condition usually lasts for approximately one to two months. It is often followed by several months of hypothyroidism, but most women will eventually recover normal thyroid function. In some cases, however, the thyroid gland does not heal, so the hypothyroidism becomes permanent and requires lifelong thyroid hormone replacement. This condition may occur again with subsequent pregnancies.

SILENT THYROIDITIS
Transient (temporary) hyperthyroidism can be caused by silent thyroiditis, a condition which appears to be the same as postpartum thyroiditis but not related to pregnancy. It is not accompanied by a painful thyroid gland.

CONGENITAL CONDITION
An infant may be born with an inadequate amount of thyroid tissue or an enzyme defect that does not allow normal thyroid hormone production. If this condition is not treated promptly, physical stunting and/or mental damage (cretinism) may develop.

PITUITARY HYPOTHYROIDISM
TSH is produced by the pituitary gland, which is located behind the nose at the base of the brain. Any destructive disease of the pituitary gland may cause damage to the cells that secrete Thyroid-Stimulating Hormone (TSH), which
stimulates the thyroid to produce normal amounts of thyroid hormone. This is a very rare cause of hypothyroidism.

HOW IS HYPOTHYROIDISM DIAGNOSED?
Characteristic symptoms and physical signs, which can be detected by a physician, can signal hypothyroidism. However, the condition may develop so slowly that many patients do not realize that their body has changed, so it is critically important to perform diagnostic laboratory tests to confirm the diagnosis and to determine the cause of hypothyroidism.

TSH (THYROID-STIMULATING HORMONE OR THYROTROPIN) TEST
An increased TSH level in the blood is the most accurate indicator of primary (nonpituitary) hypothyroidism. Production of this pituitary hormone is increased when the thyroid gland even slightly underproduces thyroid hormone.

OTHER TESTS
• Estimates of free thyroxine - the active thyroid hormone in the blood. It is important to note that there is a range of free thyroxine levels in the blood of normal people, similar to the range for height, and that a value of free thyroxine that is "within normal limits" for the general population may not be appropriate for a particular individual.
• Thyroid autoantibodies - indicates the likelihood of autoimmune thyroiditis being the cause of hypothyroidism.

A primary care physician may make the diagnosis of hypothyroidism, but assistance is often needed from an endocrinologist, a physician who is a specialist in thyroid diseases.

HOW IS HYPOTHYROIDISM TREATED?
Hypothyroidism is generally treated with a single daily dose of levothyroxine, given as a tablet. An experienced physician can prescribe the correct form and dosage to return the thyroid balance to normal. Older patients who may have underlying heart disease are usually started at a low dose and gradually increased while younger healthy patients can be started on full replacement doses at once. Thyroid hormone acts very slowly in some parts of the body, so it may take several months after treatment for some features to improve.

Since most cases of hypothyroidism are permanent and often progressive, it is usually necessary to treat this condition throughout one’s lifetime. Periodic monitoring of TSH levels and clinical status are necessary to ensure that the proper dose is being given, since medication doses may have to be adjusted from time to time. Optimal adjustment of thyroid hormone dosage is critical, since the body is very sensitive to even small changes in thyroid hormone levels. Levothyroxine tablets come in 12 different strengths, and it is essential to take them in a consistent manner every day. A dose of thyroid hormone that is too low may fail to prevent enlargement of the thyroid gland, allow symptoms of hypothyroidism to persist, and be associated with increased serum cholesterol levels, which may increase the risk for atherosclerosis and heart disease. A dose that is too high can cause symptoms of hyperthyroidism, create excessive strain on the heart, and lead to an increased risk of developing osteoporosis.

It is extremely important that women planning to become pregnant are kept well adjusted, since hypothyroidism can affect the development of the baby. During pregnancy, thyroid hormone replacement requirements often change, so more frequent monitoring is necessary. Various medications and supplements (particularly iron) may affect the absorption of thyroid hormone; therefore, the levels may need more frequent monitoring during illness or change in medication.

Thyroid hormone is critical for normal brain development in babies. Infants requiring thyroid hormone therapy should NOT be treated with purchased liquid suspensions, since the active hormone may deteriorate once dissolved and the baby could receive less thyroid hormone than necessary. Instead, infants with hypothyroidism should receive their thyroid hormone by crushing a single tablet daily of the correct dose and suspending it in one teaspoon of liquid and administering it properly.

Appropriate management of hypothyroidism requires continued care by a physician experienced in the treatment of this condition.
Hyperthyroidism

WHAT IS HYPERTHYROIDISM?
Hyperthyroidism develops when the body is exposed to excessive amounts of thyroid hormone. This disorder occurs in almost one percent of all Americans and affects women five to ten times more often than men. In its mildest form, hyperthyroidism may not cause recognizable symptoms. More often, however, the symptoms are discomforting, disabling, or even life-threatening.

WHAT ARE THE FEATURES OF HYPERTHYROIDISM?
When hyperthyroidism develops, a goiter (enlargement of the thyroid) is usually present and may be associated with some or many of the following features:

• Fast heart rate, often more than 100 beats per minute
• Becoming anxious, irritable, argumentative
• Trembling hands
• Weight loss, despite eating the same amount or even more than usual
• Intolerance of warm temperatures and increased likelihood to perspire
• Loss of scalp hair
• Tendency of fingernails to separate from the nail bed
• Muscle weakness, especially of the upper arms and thighs
• Loose and frequent bowel movements
• Smooth skin
• Change in menstrual pattern
• Increased likelihood for miscarriage
• Prominent “stare” of the eyes
• Protrusion of the eyes, with or without double vision (in patients with Graves’ disease)
• Irregular heart rhythm, especially in patients older than 60 years of age
• Accelerated loss of calcium from bones, which increases the risk of osteoporosis and fractures

WHAT ARE THE CAUSES OF HYPERTHYROIDISM?

GRAVES’ DISEASE
Graves’ disease (named after Irish physician Robert Graves) is an autoimmune disorder that frequently results in thyroid enlargement and hyperthyroidism. In some patients, swelling of the muscles and other tissues around the eyes may develop, causing eye prominence, discomfort or double vision. Like other autoimmune diseases, this condition tends to affect multiple family members. It is much more common in women than in men and tends to occur in younger patients.

TOXIC MULTINODULAR GOITER
Multiple nodules in the thyroid can produce excessive thyroid hormone, causing hyperthyroidism. Typically diagnosed in patients over the age of 50, this disorder is more likely to affect heart rhythm. In many cases, the person has had the goiter for many years before it becomes overactive.

TOXIC NODULE
A single nodule or lump in the thyroid can also produce more thyroid hormone than the body requires and lead to hyperthyroidism. This disorder is not familial.

SUBACUTE THYROIDITIS
This condition may follow a viral infection and is characterized by painful thyroid gland enlargement and inflammation, which results in the release of large amounts of thyroid hormones into the blood. Fortunately, this condition usually resolves spontaneously. The thyroid usually heals itself over several months, but often not before a temporary period of low thyroid hormone production (hypothyroidism) occurs.

POSTPARTUM THYROIDITIS
Five to ten percent of women develop mild to moderate hyperthyroidism within several months of giving birth. Hyperthyroidism in this condition usually lasts for approximately one to two months. It is often followed by several months of hypothyroidism, but most women will eventually recover normal thyroid function. In some cases, however, the thyroid gland does not heal, so the hypothyroidism becomes permanent and requires lifelong thyroid hormone replacement. This condition may occur again with subsequent pregnancies.

SILENT THYROIDITIS
Transient (temporary) hyperthyroidism can be caused by silent thyroiditis, a condition which appears to be the same as postpartum thyroiditis but not related to pregnancy. It is not accompanied by a painful thyroid gland.

EXCESSIVE IODINE INGESTION
Various sources of high iodine concentrations, such as kelp tablets, some expectorants, amiodarone (Cordarone, Pacerone — a medication used to treat certain problems with heart rhythms) and x-ray dyes may occasionally cause hyperthyroidism in patients who are prone to it.

OVERMEDICATION WITH THYROID HORMONE
Patients who receive excessive thyroxine replacement treatment can develop hyperthyroidism. They should have their thyroid hormone dosage evaluated by a physician at least once each year and should NEVER give themselves “extra” doses.

HOW IS HYPERTHYROIDISM DIAGNOSED?
Characteristic symptoms and physical signs of hyperthyroidism can be detected by a physician. In addition, tests can be used to confirm the diagnosis and to determine the cause.

TSH (THYROID-STIMULATING HORMONE OR THYROTROPIN) TEST
A low TSH level in the blood is the most accurate indicator of hyperthyroidism. The body shuts off production of this pituitary hormone when the thyroid gland even slightly overproduces thyroid hormone. If the TSH level is low, it is very important to also check thyroid hormone levels to confirm the diagnosis of hyperthyroidism.

OTHER TESTS
• Estimates of free thyroxine and free triiodothyronine - the active thyroid hormones in the blood. When hyperthyroidism develops, free thyroxine and free triiodothyronine levels rise above previous values in that specific patient (although they may still fall within the normal range for the general
• TSI (thyroid-stimulating immunoglobulin) - a substance often found in the blood when Graves’ disease is the cause of hyperthyroidism. This test is ordered infrequently, since it rarely affects treatment decisions or helps in the diagnosis.

• Radioactive iodine uptake (RAIU - a measurement of how much iodine the thyroid gland can collect) and thyroid scan (a thyroid scan shows how the iodine is distributed throughout the thyroid gland). This information can be useful in determining the cause of hyperthyroidism and ultimately its treatment.

Sometimes a general physician can diagnose and treat the cause of hyperthyroidism, but assistance is often needed from an endocrinologist, a physician who specializes in managing thyroid disease.

**HOW IS HYPERTHYROIDISM TREATED?**
Before the development of current treatment options, the death rate from severe hyperthyroidism was as high as 50 percent. Now several effective treatments are available and, with proper management, death from hyperthyroidism is rare. Deciding which treatment is best depends on what caused the hyperthyroidism, its severity, and other conditions present. A physician who is experienced in the management of thyroid diseases can confidently diagnose the cause of hyperthyroidism and prescribe and manage the best treatment program for each patient.

**ANTITHYROID DRUGS**
In the United States, two drugs are available for treating hyperthyroidism: propylthiouracil (PTU) and methimazole (Tapazole). These medications control hyperthyroidism by slowing thyroid hormone production, and are frequently used for several months after the initial diagnosis of hyperthyroidism to normalize the thyroid hormone levels. Some patients with hyperthyroidism caused by Graves’ disease experience a spontaneous or natural remission of hyperthyroidism after a 12- to 18-month course of treatment with these drugs, and may sometimes avoid permanent underactivity of the thyroid (hypothyroidism), which often occurs as a result of using the other methods of treating hyperthyroidism. Unfortunately, the remission is frequently only temporary, with the hyperthyroidism recurring after several months or years off medication and requiring additional treatment, so relatively few patients are treated solely with antithyroid medication in the United States.

Antithyroid drugs may cause an allergic reaction in about five percent of patients who use them. This usually occurs during the first six weeks of drug treatment. Such a reaction may include rash or hives; but after discontinuing use of the drug, the symptoms resolve within one to two weeks and there is no permanent damage.

A more serious effect, but occurring in only about one in 250-500 patients during the first four to eight weeks of treatment, is a rapid decrease of white blood cells in the bloodstream. This could increase susceptibility to serious infection. Symptoms such as a sore throat, infection, or fever should be reported promptly to your physician, and a blood cell count should be done immediately. In nearly every case, when a person stops using the medication, the white blood cell count returns to normal.

Very rarely, antithyroid drugs may cause severe liver problems, which can be detected by monitoring blood tests or joint problems characterized by joint pain and/or swelling. Your physician should be contacted if there is yellowing of the skin ("jaundice"), fever, loss of appetite, or abdominal pain.

**RADIOACTIVE IODINE TREATMENT**
Iodine is an essential ingredient in the production of thyroid hormone. Each molecule of thyroid hormone contains either four (T4) or three (T3) molecules of iodine. Since most overactive thyroid glands are quite hungry for iodine, it was discovered in the 1940’s that the thyroid could be “tricked” into destroying itself by simply feeding it radioactive iodine. The radioactive iodine is given by mouth, usually in capsule form, and is quickly absorbed from the bowel. It then enters the thyroid cells from the bloodstream and gradually destroys them. Maximal benefit is usually noted within three to six months.

It is not possible to eliminate “just the right amount” of the diseased thyroid gland, since radioiodine eventually damages all thyroid cells. Therefore, most endocrinologists strive to completely destroy the diseased thyroid gland with a single dose of radioiodine. This results in the intentional development of an underactive thyroid state (hypothyroidism), which is easily, predictably and inexpensively corrected by lifelong daily use of oral thyroid hormone replacement therapy. Although every effort is made to calculate the correct dose of radioiodine for each patient, not every treatment will successfully correct the hyperthyroidism, particularly if the goiter is quite large and a second dose of radioactive iodine is occasionally needed.

Thousands of patients have received radioiodine treatment, including former President of the United States George Bush and his wife, Barbara. The treatment appears to be a very safe, simple, and reliably effective one. Because of this, it is considered by most thyroid specialists in the United States to be the treatment of choice for hyperthyroidism cases caused by overproduction of thyroid hormone.

**RADIOACTIVE IODINETREATMENT SHOULD NEVER BE GIVEN TO A PREGNANT WOMAN!**
Small amounts of radioactive iodine will also be excreted in breast milk. Since radioiodine could permanently damage the infant’s thyroid, breast-feeding is not allowed. If radioiodine is inadvertently administered to a woman who is subsequently discovered to be pregnant, the advisability of terminating the pregnancy should be discussed with the patient’s obstetrician and endocrinologist. Therefore, prior to administering diagnostic or therapeutic radioiodine treatment, pregnancy testing is mandatory whenever pregnancy is possible.

**SURGICAL REMOVAL OF THE THYROID**
Although seldom used now as the preferred treatment for hyperthyroidism, operating to remove most of the thyroid gland may occasionally be recommended in certain situations, such as a pregnant woman with severe uncontrolled disease in whom radioiodine would not be safe for the baby. Surgery usually leads to permanent hypothyroidism and lifelong thyroid hormone replacement therapy.

**OTHER TREATMENTS**
A drug from the class of beta-adrenergic blocking agents (which decrease the effects of excess thyroid hormone) may be used temporarily to control hyperthyroid symptoms until other therapies take effect. In cases where hyperthyroidism is caused by thyroiditis or excessive ingestion of either iodine or thyroid hormone, this may be the only type of treatment required.

Appropriate management of hyperthyroidism requires careful evaluation and ongoing care by a physician experienced in the treatment of this complex condition.
WHY IS IT IMPORTANT TO TAKE CARE OF THE THYROID DURING PREGNANCY?

Even before conception, thyroid conditions that have lingered untreated can hinder a woman’s ability to become pregnant or can lead to miscarriage. Fortunately, most thyroid problems that affect pregnancy are easily treated. The difficulty lies in recognizing a thyroid problem during a time when some of the chief complaints — fatigue, constipation, and heat intolerance — can be either the normal side effects of pregnancy or signals that something is wrong with the thyroid.

Although detecting a thyroid problem is important, it is equally necessary for those already diagnosed with a condition to have the thyroid checked if they are planning to become pregnant or are pregnant.

Thyroid hormone is necessary for normal brain development. In early pregnancy, babies get thyroid hormone from their mothers. Later on as the baby’s thyroid develops it makes its own thyroid hormone. An adequate amount of iodine is needed to produce fetal and maternal thyroid hormone. The best way to ensure adequate amounts of iodine reach the unborn child is for the mother to take a prenatal vitamin with a sufficient amount of iodine. Not all prenatal vitamins contain iodine, so be sure to check labels properly.

WHO SHOULD BE TESTED?

Despite the impact thyroid diseases can have on a mother and baby, whether to test every pregnant woman for them remains controversial. As it stands, doctors recommend that all women at high risk for thyroid disease or women who are experiencing symptoms should have a TSH and an estimate of free thyroxine blood tests and other thyroid blood tests if warranted. A woman is at a high risk if she has a history of thyroid disease or thyroid autoimmunity, a family history of thyroid disease, type 1 diabetes mellitus, or any other autoimmune condition. Anyone with these risk factors should be sure to tell their obstetrician or family physician. Ideally, women should be tested prior to becoming pregnant at prenatal counseling and as soon as they know they are pregnant.

HYPOTHYROIDISM DURING PREGNANCY

When a woman is pregnant, her body needs enough thyroid hormone to support a developing fetus and her own expanded metabolic needs. Healthy thyroid glands naturally meet increased thyroid hormone requirements. If someone has Hashimoto’s thyroiditis or an already overtaxed thyroid gland, thyroid hormone levels may decline further. So, women with an undetected mild thyroid problem may suddenly find themselves with pronounced symptoms of hypothyroidism after becoming pregnant.

WHAT ARE THE RISKS OF AN UNDERACTIVE THYROID GLAND DURING PREGNANCY?

In the United States, most women who develop hypothyroidism during pregnancy develop mild disease and may experience only mild symptoms or sometimes no symptoms. However, if you had a mild, undiagnosed condition before becoming pregnant, the condition may worsen. A range of signs and symptoms may be experienced, but one needs to be aware that these can be easily written off as normal features of pregnancy. Untreated hypothyroidism, even a mild version, may contribute to possible pregnancy complications. Treatment with sufficient amounts of thyroid hormone replacement significantly reduces the risk for developing any of the following pregnancy complications associated with hypothyroidism:

- Abruptio placenta
- Premature birth
- Postpartum hemorrhage
- Preeclampsia
- Anemia
- Miscarriage

TREATING HYPOTHYROIDISM DURING PREGNANCY

There is no difference between treating hypothyroidism when a woman is pregnant than when she isn’t. Levothyroxine sodium pills are completely safe for use during pregnancy. They will be prescribed in dosages that are aimed at replacing the thyroid hormone the thyroid isn’t making so that the TSH level is kept within normal ranges. Once a woman begins taking thyroid hormone pills, she will be monitored closely until her TSH level is within normal ranges. Once it is, the doctor should check TSH levels every six weeks or so. The physician may also counsel patients to take their thyroid hormone pills at least one-half hour to one hour before or at least three hours after they take iron-containing prenatal vitamins or calcium supplements, both of which can interfere with the absorption of thyroid hormone.

HYPERTHYROIDISM DURING PREGNANCY

Graves’ disease tends to strike women during their reproductive years, so it should come as no surprise that it occasionally occurs in pregnant women. Reports on pregnan-
cies lasting longer than twenty weeks suggest that Graves’
disease occurs in 2 per 1,000 pregnancies or 0.2 percent of
all pregnancies. Pregnancy may worsen a preexisting case
of Graves’ disease. Graves’ disease can also emerge for the
first time, typically during the first trimester of pregnancy.
The disease is usually at its worst during the first trimester.
It tends to then improve in the second and third trimesters
and flare up again after delivery.

WHAT ARE THE RISKS OF AN
OVERACTIVE THYROID
DURING PREGNANCY?
A woman with hyperthyroidism while pregnant puts her
at an increased risk for experiencing any of the signs and
symptoms of hyperthyroidism. And unless the condition
is mild, if it is not treated promptly, a woman could
miscarry during the first trimester; develop congestive
heart failure, preeclampsia, or anemia; and, rarely, de-
develop a severe form of hyperthyroidism called thyroid
storm, which can be life threatening.

Hyperthyroidism, if untreated, can lead to stillbirth, pre-
mature birth, or low birth weight for the baby. Some-
times it leads to fetal tachycardia, which is an abnor-
mal fast pulse in the fetus. Women with Graves’ disease
have antibodies that stimulate their thyroid gland. These
antibodies can cross the placenta and stimulate a baby’s
thyroid gland. If antibody levels are high enough, the
baby could develop fetal hyperthyroidism, or neonatal
hyperthyroidism.

HOW IS HYPERTHYROIDISM
DIAGNOSED DURING PREGNANCY?
As with hypothyroidism, diagnosing hyperthyroidism
based on symptoms can be tricky because pregnancy and
hyperthyroidism share a host of features. Still, one should
be aware of the symptoms and bring them to the attention
of a doctor if they are experiencing them. For instance, feel-
ing a heart flutter or suddenly becoming short of breath,
both symptoms of hyperthyroidism, can be normal in
pregnancy, but a doctor still may want to investigate these
symptoms. An individual with any risk factors for thyroid
disease should make certain they are tested.

While hyperthyroidism can easily be diagnosed through
blood tests, finding out what’s causing it may require
scanning tests that use minimal amounts of radioactive
iodine. During pregnancy, however, scanning tests are
not done because small amounts of radioactivity may
cross the placenta and become concentrated in the baby’s
thyroid gland. Antibody tests can be used to distinguish
Graves’ disease from other causes. A physical exam can
help diagnose or distinguish a toxic adenoma or toxic
multinodular goiter.

TREATING HYPERTHYROIDISM
DURING PREGNANCY
Very mild hyperthyroidism usually does not require treat-
ment, only routine monitoring with blood tests to make
sure the disease does not progress. More serious condi-
tions require treatment. However, treatment options are
limited for pregnant women. Radioactive iodine, which
is typically used to treat Graves’ disease, cannot be used
during pregnancy because it easily crosses the placenta,
potentially damaging the baby’s thyroid gland and caus-
ing hypothyroidism in the baby.

Due to its potential risks, the goal of treatment is to use the
minimal amount of antithyroid drugs possible to maintain
a patient’s T4 and T3 levels at or just above the upper level
of normal, while keeping TSH levels suppressed. When hor-
mones reach the desired levels, drug doses can be reduced.
This approach controls hyperthyroidism while minimizing
the changes of a baby developing hypothyroidism.

THYROID DISEASES IN CHILDREN
Thyroid problems are much less common in children than
adults, but when they strike, they can be more worrisome
because of their potential effect on children’s growth and
developing brains.

In adults, treatment usually reverses the effects of thyroid
diseases, even when they go undetected for years. Yet in
early childhood, hypothyroidism can lead to permanent
mental deficiencies and short stature if it is not treated
promptly. Hyperthyroidism can lead to accelerated growth
in children, and when it affects infants, it can be fatal.

Thanks to screening programs that test all newborns for
hypothyroidism, the immutable effects of that disease
are prevented in numerous children. Each year, in North
America alone, more than five million newborns are
screened annually, and hypothyroidism is detected and
treated in fourteen hundred of these infants.

A child may be born with a thyroid condition or may
develop one sometime during childhood. Diagnosing
thyroid diseases that aren’t detected through screening
programs can be especially tricky, since it is up to the par-
tent to recognize when something is wrong. This certainly
isn’t easy when dealing with young children who aren’t
talking yet or with older children who may not be able
to describe what they feel—or even know what they are
feeling isn’t normal.

If you or someone in your family has a thyroid condi-
tion, your child may be at a higher risk for developing a
thyroid disorder.
WHAT IS HASHIMOTO’S THYROIDITIS?
Hashimoto’s thyroiditis (also called autoimmune or chronic lymphocytic thyroiditis) is the most common thyroid disease in the United States. It is an inherited condition that affects approximately 14 million Americans and is about seven times more common in women than in men. Hashimoto’s thyroiditis is characterized by the production of immune cells and autoantibodies by the body’s immune system, which can damage thyroid cells and compromise their ability to make thyroid hormone. Hypothyroidism occurs if the amount of thyroid hormone, which can be produced, is not enough for the body’s needs. The thyroid gland may also enlarge, forming a goiter.

WHAT ARE THE FEATURES OF HASHIMOTO’S THYROIDITIS?
Hashimoto’s thyroiditis may not cause symptoms for many years and remain undiagnosed until an enlarged thyroid gland or abnormal blood tests are discovered as part of a routine examination. When symptoms do develop, they are either related to local pressure effects in the neck caused by the goiter itself, or to the low levels of thyroid hormone. The first sign of this disease may be painless swelling in the lower front of the neck. This enlargement may eventually become easily visible. It may be associated with an uncomfortable pressure sensation in the lower neck. This pressure on surrounding structures may cause additional symptoms, including difficulty swallowing.

Although many of the features associated with thyroid hormone deficiency occur commonly in patients without thyroid disease, patients with Hashimoto’s thyroiditis who develop hypothyroidism are more likely to experience the following:

- Fatigue
- Drowsiness
- Forgetfulness
- Difficulty with learning
- Dry, brittle hair and nails
- Dry, itchy skin
- Puffy face
- Constipation
- Sore muscles
- Weight gain
- Heavy menstrual flow
- Increased frequency of miscarriages
- Increased sensitivity to many medications

The thyroid enlargement and/or hypothyroidism caused by Hashimoto’s thyroiditis progresses in many patients, causing a slow worsening of symptoms. Therefore, patients with either of these findings should be recognized and adequately treated with thyroid hormone. Optimal treatment with thyroid hormone will eliminate any symptoms due to thyroid hormone deficiency, usually prevent further thyroid enlargement, and may sometimes cause shrinkage of an enlarged thyroid gland.

WHAT IS THE CAUSE OF HASHIMOTO’S THYROIDITIS?
Hashimoto’s thyroiditis results from a malfunction in the immune system. When working properly, the immune system is designed to protect the body against invaders, such as bacteria, viruses, and other foreign substances. The immune system of someone with Hashimoto’s thyroiditis mistakenly recognizes normal thyroid cells as foreign tissue, and it produces antibodies that may destroy these cells. Although various environmental factors have been studied, none have been positively proven to be the cause of Hashimoto’s thyroiditis.

HOW IS HASHIMOTO’S THYROIDITIS DIAGNOSED?
A physician experienced in the diagnosis and treatment of thyroid disease can detect a goiter due to Hashimoto’s thyroiditis by performing a physical examination and can recognize hypothyroidism by identifying characteristic symptoms, finding typical physical signs, and doing appropriate laboratory tests.

ANTITHYROID ANTIBODIES
Increased antithyroid antibodies provide the most specific laboratory evidence of Hashimoto’s thyroiditis, but they are not present in all cases.

TSH (THYROID-STIMULATING HORMONE OR THYROTROPIN) TEST
Increased TSH level in the blood is the most accurate indicator of hypothyroidism. TSH is produced by another gland, the pituitary, which is located behind the nose at the base of the brain. The level of TSH rises dramatically when the thyroid gland even slightly underproduces thyroid hormone, so in patients with normal pituitary function, a normal level of TSH reliably excludes hypothyroidism.
OTHER TESTS
- An estimate of free thyroxine - the active thyroid hormone in the blood. A low level of free thyroxine is consistent with thyroid hormone deficiency. However, free thyroxine values in the “normal range” may actually represent thyroid hormone deficiency in a particular patient, since a high level of TSH stimulation may keep the free thyroxine levels “within normal limits” for many years.
- Fine-needle aspiration of the thyroid - usually not necessary for most patients with Hashimoto’s thyroiditis, but a good way to diagnose difficult cases and a necessary procedure if a thyroid nodule is also present.

HOW IS HASHIMOTO’S THYROIDITIS TREATED?
For patients with thyroid enlargement (goiter) or hypothyroidism, thyroid hormone therapy is clearly needed, since proper dosage corrects any symptoms due to thyroid hormone deficiency and may decrease the goiter’s size. Treatment generally consists of taking a single daily tablet of levothyroxine. Older patients who may have underlying heart disease are usually started on a low dose and gradually increased, while younger, healthy patients can be started on full replacement doses at once. Thyroid hormone acts very slowly in the body, so it may take several months after treatment is started to notice improvement in symptoms or goiter shrinkage. Because of the generally permanent and often progressive nature of Hashimoto’s thyroiditis, it is usually necessary to treat it throughout one’s lifetime and to realize that medicine dose requirements may have to be adjusted from time to time.

Optimal adjustment of thyroid hormone dosage, based on laboratory tests rather than symptoms, is critical, since the body is very sensitive to even small changes in thyroid hormone levels. Levothyroxine tablets come in 12 different strengths, and it is essential to take them in a consistent manner every day. If the dose is not adequate, the thyroid gland may continue to enlarge and symptoms of hypothyroidism will persist. This may be associated with increased serum cholesterol levels, possibly increasing the risk for atherosclerosis and heart disease. If the dose is too strong, it can cause symptoms of hyperthyroidism, creating excessive strain on the heart and an increased risk of developing osteoporosis.

OTHER ASSOCIATED DISORDERS
As noted above, Hashimoto’s thyroiditis is a common disorder of the immune system, which affects the thyroid gland. However, much less often, the immune system can also mistakenly target virtually any other part of the body, causing it to malfunction, and this tendency runs in families. Although the majority of patients with Hashimoto’s thyroiditis and their genetic family members will never experience any other autoimmune condition, they do have a statistically increased risk of developing the following disorders:
- Type 1 diabetes mellitus (insulin-requiring)
- Graves’ disease (goiter and hyperthyroidism or overactive thyroid)
- Rheumatoid arthritis
- Pernicious anemia (inability to absorb vitamin B12, potentially causing anemia and neurologic problems)
- Addison’s disease (adrenal failure; the adrenal gland provides cortisol to handle stress and illness)
- Premature ovarian failure (early menopause)
- Vitiligo (patchy loss of skin pigmentation)
- Thrombocytopenic purpura (bleeding disorder due to inadequate platelets in the blood)
- Lupus erythematosus (autoimmune disease that involves skin, heart, lungs, kidneys and joints)

Appropriate management of Hashimoto’s thyroiditis requires continued care by a physician who is experienced in the treatment of this disease.
WHAT IS THYROID CANCER?
The thyroid gland is located in the lower front of the neck, above the collarbones, and below the voice box (larynx). Thyroid cancer (carcinoma) usually appears as a painless lump in this area. In most cases, the lump is only on one side, and the results of thyroid function tests (blood tests) are usually normal.

There are four main types of thyroid cancer (papillary, follicular, medullary and anaplastic). Since the vast majority are either papillary or follicular, and these are the only two types treatable with radioiodine, this brochure will focus on these two types.

WHAT ARE THE FEATURES OF THYROID CANCER?
Many patients with thyroid cancer have no symptoms whatsoever, and are found by chance to have a lump in the thyroid gland on a routine physical exam or an imaging study of the neck done for unrelated reasons (CT or MRI scan of spine or chest, carotid ultrasound, etc.). Some patients with thyroid cancer become aware of a gradually enlarging lump in the front portion of the neck, which usually moves with swallowing. Occasionally, the lump may cause a feeling of pressure. Obviously, finding a lump in the neck should be brought to the attention of your physician, even in the absence of symptoms.

WHAT ARE THE CAUSES OF THYROID CANCER?
As with many types of cancer, the specific reason for developing thyroid cancer remains a mystery in the vast majority of patients. Some major risk factors are:

- External radiation to the head or neck, especially during childhood
- Genetic predisposition (the influence of heredity), particularly for the medullary type of thyroid cancer

HOW IS THYROID CANCER DIAGNOSED?

NOTE: See Thyroid Nodule handout

First, your physician takes a detailed history and performs a careful physical examination, especially of the thyroid gland. The best diagnostic approach for a specific patient will be determined by your physician after careful consideration of all the facts. The tests available to your physician for evaluation of the thyroid lump include, but are not limited to, the following:

- Fine-needle aspiration biopsy—this is usually done first and, if positive, significantly reduces the need for more elaborate and expensive testing
- Ultrasonography—this may be required for guidance of the fine needle biopsy if the nodule is difficult to feel
- Thyroid scan—this can be done to see if the mass is capable of concentrating radioiodine, particularly in those patients with low TSH levels
- Blood studies

HOW IS THYROID CANCER TREATED?
Fortunately, most types of thyroid cancer can be diagnosed early and cured completely, but a thoughtful and comprehensive investigation is necessary. If thyroid cancer is suspected after review of all the information, referral to an experienced thyroid surgeon is recommended.

If the diagnosis of thyroid cancer is certain or highly likely, the usual approach is to remove both sides of the thyroid gland. If the diagnosis of thyroid cancer is much less certain or cannot be made during surgery, only the side of the thyroid containing the lump may be removed. If cancer is subsequently confirmed, further consultation with the endocrinologist is appropriate. Additional surgery to remove the remaining tissue and radioactive iodine treatment are usually recommended in order to destroy any remaining malignant thyroid cells and to reduce the risk of recurrence of this disease.

RADIOACTIVE IODINE TREATMENT SHOULD NEVER BE GIVEN TO A PREGNANT OR NURSING WOMAN!
Small amounts of radioactive iodine will also be excreted in breast milk. Since radioiodine could permanently damage the infant’s thyroid, breast-feeding is not allowed. If radioiodine is inadvertently administered to a woman who is subsequently discovered to be pregnant, the advisability of terminating the pregnancy should be discussed with the patient’s obstetrician and endocrinologist. Therefore, prior to administering diagnostic or therapeutic radioiodine treatment, pregnancy testing is mandatory whenever pregnancy is possible.
After radioiodine therapy, thyroid medication (levothyroxine) should be started and dosed to replace the function of the thyroid and to decrease the likelihood of cancer recurrence. Periodic monitoring is supervised by the endocrinologist, and may include ultrasound examinations, radioiodine body scans, and periodic testing of a blood protein called thyroglobulin, which is found in normal thyroid cells but can also be produced by thyroid cancer cells.

The optimal frequency of further monitoring studies to be certain that the cancer has not recurred will be determined by your physician. Fortunately, most types of thyroid cancer have a very good prognosis when diagnosed early and treated by a physician who is familiar with its management.
WHAT IS RADIOIODINE THERAPY?
If you have an overactive thyroid gland or have been diagnosed with thyroid cancer, your endocrinologist may prescribe radioactive iodine (radioiodine) as part of your overall treatment. You, your family, and your coworkers may have some questions about this therapy.

BACKGROUND
The thyroid gland produces hormones that regulate the body’s metabolism. In order to produce these hormones, the thyroid gland requires large amounts of iodine, which is found in seafood, table salt, bread, and various other foods. Iodine is an essential ingredient in the creation of thyroid hormone. Each molecule of thyroid hormone contains either three (T3) or four (T4) molecules of iodine. Most overactive thyroid glands are quite hungry for iodine. This led to the discovery in the 1940s that an overactive thyroid gland could be “tricked” into destroying itself by simply feeding it radioactive iodine. Your endocrinologist can also use radioiodine to treat some types of thyroid cancer.

Radioiodine has been used for more than 60 years in the treatment of thyroid diseases with remarkably few undesirable effects. However, problems may rarely occur when very large doses are given, including decrease in taste sensation and irritation of the salivary glands, or the gastrointestinal tract. No significant increase has been seen in either the occurrence of malignant tumors in patients treated with radioiodine or the number of birth defects in children born later to women who have received this type of treatment.

HYPERTHYROIDISM (OVERACTIVE THYROID)
Before the development of current treatment options, the death rate from severe hyperthyroidism was as high as 50 percent. Now several effective treatments (antithyroid drugs, surgery, and radioiodine) are available, and death from hyperthyroidism is rare. Deciding which treatment is best depends on what caused the hyperthyroidism, its severity, and other conditions present. Endocrinologists are experienced in the management of thyroid diseases and can confidently diagnose the cause of hyperthyroidism and prescribe and manage the best treatment program for each patient.

Thousands of patients have received radioiodine treatment, including former President of the United States George Bush and his wife, Barbara. The treatment appears to be a very safe, simple, and reliably effective one. Because of this, it is considered by most thyroid specialists in the United States to be the treatment of choice for hyperthyroidism cases caused by overproduction of thyroid hormones.

Radioactive iodine is given by mouth, usually in capsule form, and is quickly absorbed from the bowel. It then enters the thyroid cells from the bloodstream and gradually destroys them. Although the radioactivity from this treatment remains in the thyroid for some time, it is largely eliminated from the rest of the body within a few days. Its effect on the thyroid gland usually takes between one and three months to develop, and maximal benefit is usually noted within three to six months.

It is not possible to eliminate “just the right amount” of the diseased thyroid gland, since radioiodine eventually damages all thyroid cells. Therefore, most endocrinologists strive to completely destroy the diseased thyroid gland with a single dose of radioiodine. This results in the intentional development of an underactive thyroid state (hypothyroidism), which is easily, predictably and inexpensively corrected by lifelong daily use of oral thyroid hormone replacement therapy. Although every effort is made to calculate the correct dose of radioiodine for each patient, not every treatment will successfully correct the hyperthyroidism, particularly if the goiter is quite large, in which case a second dose of radioactive iodine will be needed.

THYROID CANCER
The two most common types of thyroid cancer (papillary and follicular) can usually be treated with radioiodine because the cells are able to take up some iodine. Radioiodine is used to treat thyroid cancer in the following two general situations:

AFTER REMOVAL OF THE THYROID
An experienced thyroid surgeon can remove most of the thyroid with a very low risk of surgical complications. Radioiodine can be used to destroy the remainder of the gland, since it might harbor additional microscopic clusters of cancer cells. In that case, you may be advised not to use thyroid hormone replacement for several weeks after the operation, in order to allow the thyroid levels to drop below normal. This will lead to maximal stimulation of the remaining thyroid cells to concentrate iodine and be destroyed when you receive a dose of radioiodine. This treatment significantly reduces the possibility of recurrent cancer and also improves the ability to detect and treat any future cancer recurrences that might develop.

DURING FOLLOW-UP
Patients with residual thyroid cancer or cancer that has spread to regions outside of the neck can undergo a scan with a test amount of radioiodine. Scanning with radioiodine helps to determine the extent of “persistent” or “recurrent” thyroid cancer, whether it may respond to additional doses of radioactive iodine, and how much radioactive iodine to use for treatment. If any iodine is concentrated in the areas of the thyroid cancer, another dose of radioiodine can be given to try to destroy the tumor. This treatment is safe, well tolerated, and has successfully treated many cases of thyroid cancer even after the tumor has spread.

All patients with thyroid cancer should have regular follow-up examinations by an endocrinologist. Additional doses of radioactive iodine may be recommended if thyroid cancer remains (which is called “persistent”) or reappears later (which is called “recurrent”). Your thyroid hormone replacement therapy will need to
be stopped long enough to allow you to become hypothyroid, so that maximum response to the treatment will occur.

**WHAT HAPPENS TO THE RADIOIODINE AFTER A TREATMENT?**
Since surgery removes the vast majority of thyroid tissue, much of the radioiodine will not be absorbed and will leave the body primarily through the urine. Small amounts will also be excreted in saliva, sweat, tears, vaginal secretions, and feces. Nearly all the radioactive iodine will leave the body during the first two days after the dose has been given.

**WHAT ABOUT PREGNANCY?**
If radioiodine is inadvertently administered to a woman who is subsequently discovered to be pregnant, the advisability of terminating the pregnancy should be discussed with the patient's obstetrician and endocrinologist. Therefore, prior to administering diagnostic or therapeutic radioiodine treatment, pregnancy testing is mandatory whenever pregnancy is possible.

**WHAT ABOUT BREASTFEEDING?**
Small amounts of radioactive iodine are excreted in breast milk. Since radioiodine could permanently damage the infant's thyroid, breast-feeding is not allowed.

**ARE FUTURE PREGNANCIES POSSIBLE?**
As a precaution, males are advised to avoid fathering a child for several months. Females are advised to postpone pregnancy for six months or more after radioiodine treatment. Women are advised to wait longer to help stabilize their thyroid status before conception. Even though the amount of radioactivity retained may be small and there is no medical proof of an actual risk from radioiodine treatment, there is a theoretical risk to a developing fetus. Such precautions essentially eliminate direct fetal exposure to radioactivity, and markedly reduce the possibility of conception with sperm that might theoretically have been damaged by exposure to radioiodine. You may need to contact your physician for guidance about methods of contraception.

Regulations regarding the use of radioiodine therapy are made by the U.S. Nuclear Regulatory Commission (NRC). Physicians and hospitals that administer this therapy must have a license to administer radioiodine, and must adhere to stringent regulations regarding its use. If you have any questions before or after receiving your treatment, please do not hesitate to contact your physician or your hospital radiation safety officer for clarification.

**IS HOSPITALIZATION NECESSARY FOR TREATMENT WITH RADIOIODINE?**
Treatment for hyperthyroidism is almost always done on an outpatient basis, because the dose required is relatively small in comparison with the doses typically used for treatment of thyroid cancer. If you have to take a larger dose of radioiodine for treatment of thyroid cancer, you may need to be admitted to the hospital for several days depending on the amount of radioiodine administered, your living environment, state of residence, or local practice patterns.

If you require hospitalization, your hospital room will have frequently handled items (such as the television control, table, phone, faucet handles, etc), covered with protective material, and the floor will be partially covered. These precautions are designed to prevent the radioactive iodine from contaminating those items that will be reused by other patients after your dismissal from the hospital. To limit the contamination of your personal items, you should bring a minimal amount of belongings for your stay. All items will be monitored at your dismissal. Clothing should be limited to what you wear when you are admitted. You should use hospital gowns during your stay. You may want to bring disposable items like magazines and newspapers, but important or durable items like hardback books, work papers, and craft items should be left at home. Check with your endocrinologist about any other issues.

Recommendations for reduction of exposure to others for several days after treatment:
- Use private toilet facilities, if possible; flush twice after each use.
- Bathe daily and wash hands frequently.
- Drink normal amount of fluids.
- Use disposable eating utensils or wash your utensils separately from others.
- Sleep alone and avoid prolonged intimate contact.
- Launder your linens, towels, and clothes daily at home, separately from others. No special cleaning of the washing machine is required between loads. This is because the radioiodine administered is water soluble.
- Do not prepare food for others that requires prolonged handling with bare hands (such as mixing a meat loaf or kneading bread).

Brief periods of close contact, such as handshaking and hugging, are permitted.

Your endocrinologist or radiation safety officer may recommend continued precautions for up to several weeks after treatment, depending on the amount of radioactivity administered. Patients receiving radioactive iodine should also carry information about their treatment with them in order to fully inform authorities who are in charge of screening for radioactive materials in public areas such as airports and subways.

**AFTER TREATMENT, SHOULD CONTACT WITH OTHER PEOPLE BE LIMITED?**
The amount of radioactive exposure to other persons during your daily activities will depend on the duration of contact and the distance you are from them. As an example, a person two feet away receives only one fourth the exposure of someone one foot away. Therefore, the general principle is to avoid prolonged, close contact with other people for several days.

If your work or daily activities involve prolonged contact with small children or pregnant women, you have to wait for several days after your treatment to resume these activities. Those patients with infants at home should arrange for care to be provided by another person for the first several days after treatment. It will not be necessary for you personally to stay elsewhere after your treatment, although you will need to sleep alone for several days.
WHAT IS A THYROID NODULE?
The thyroid gland is located in the lower front of the neck, above the collarbones, and below the voice box (larynx). A thyroid nodule is a lump in or on the thyroid gland. Thyroid nodules are common, but are usually not diagnosed. They are detected in about six percent of women and one to two percent of men. They are 10 times as common in older individuals than in younger ones. Sometimes several nodules will develop in the same person. Any time a lump is discovered in thyroid tissue, the possibility of malignancy (cancer) must be considered. Fortunately, the vast majority of thyroid nodules are benign (not cancerous).

Most patients with thyroid nodules have no symptoms whatsoever. Many are found by chance to have a lump in the thyroid gland on a routine physical exam or an imaging study of the neck done for unrelated reasons (CT or MRI scan of spine or chest, carotid ultrasound, etc.). In addition, a substantial number are first noticed by patients or those who know who see a lump in the front portion of the neck, which may or may not cause symptoms, such as a vague pressure sensation or discomfort when swallowing. Obviously, finding a lump in the neck should be brought to the attention of your physician, even in the absence of symptoms.

Nodules can be caused by a simple overgrowth of “normal” thyroid tissue, fluid-filled cysts, inflammation (thyroiditis), or a tumor (either benign or cancerous). Most nodules were surgically removed until the 1980s. In retrospect, this approach led to many unnecessary operations, since fewer than 10 percent of the removed nodules proved to be cancerous. Most removed nodules could have simply been observed or treated medically.

WHAT IS A THYROID NEEDLE BIOPSY?
A thyroid fine needle biopsy that employs a very thin needle, usually smaller than one used to draw blood, is a simple procedure that can be performed in the physician’s office. Many physicians numb the skin over the nodule prior to the biopsy, but it is not necessary to be put to sleep, and patients can usually return to work or home afterward with no ill effects. This test provides specific information about a particular patient’s nodule; information that no other test can offer short of surgery. Although the test is not perfect, a thyroid needle biopsy will provide sufficient information on which to base a treatment decision more than 75 percent of the time, eliminating the need for additional diagnostic studies.

Use of fine needle biopsy has drastically reduced the number of patients who have undergone unnecessary operations for benign nodules. However, about 10-20 percent of biopsy specimens are interpreted as inconclusive or inadequate; that is, the pathologist cannot be certain whether the nodule is cancerous or benign. This situation is particularly common with cystic (fluid-filled) nodules, which contain very few thyroid cells to examine, and with those nodules composed of clusters of thyroid or follicular cells that cannot be conclusively determined to be either benign or malignant. In such cases, a physician who is experienced with thyroid disease can use other criteria to make a decision about whether or not to operate. The fine needle biopsy can be repeated in those patients whose initial attempt failed to yield enough material to made a diagnosis. Many physicians use thyroid ultrasonography to guide the needle’s placement.

WHAT IS A THYROID SCAN?
A thyroid scan is a picture of the thyroid gland taken after a small dose of a radioactive isotope normally concentrated by thyroid cells has been injected or swallowed. The scan tells whether the nodule is hyperfunctioning (a “hot” nodule), or taking up more radioactivity than normal thyroid tissue does, taking up the same amount as normal tissue (a “warm” nodule), or taking up less (a “cold” nodule). Because cancer is rarely found in hot nodules, a scan showing a hot nodule eliminates the need for fine needle biopsy. If a hot nodule causes hyperthyroidism, it can be treated with radioiodine or surgery.

NEITHER A THYROID SCAN NOR RADIOIODINE TREATMENT SHOULD EVER BE GIVEN TO A PREGNANT WOMAN!
Small amounts of radioactive iodine will also be excreted in breast milk. Since radioiodine could permanently damage the infant’s thyroid, breast-feeding is not allowed. If radioiodine is inadvertently administered to a woman who is subsequently discovered to be pregnant, the advisability of terminating the pregnancy should be discussed with the patient’s obstetrician and endocrinologist. Therefore, prior to administering diagnostic or therapeutic radioiodine treatment, pregnancy testing is mandatory whenever pregnancy is possible.

Fortunately, the vast majority (90 – 95 percent) of thyroid nodules are benign. Unfortunately, thyroid scans show that most thyroid nodules, both benign and malignant, are cold
or nonfunctioning. Therefore, although almost all thyroid cancers are nonfunctional on scan, the majority of nonfunctional nodules are benign. For this reason, thyroid scans are of relatively little value in most patients unless TSH levels are toward the lower end of the normal range or below the normal range. For more information on TSH levels, visit www.powerofprevention.com.

WHAT IS THYROID ULTRASONOGRAPHY?
Thyroid ultrasonography is a procedure for obtaining pictures of the thyroid gland by using high-frequency sound waves that pass through the skin and are reflected back to the machine to create detailed images of the thyroid. It can visualize nodules as small as two to three millimeters. Ultrasound distinguishes thyroid cysts (fluid-filled nodules) from solid nodules. Many nodules have both solid and cystic components, and very few purely cystic nodules occur. Recent advances in ultrasonography help physicians identify nodules that are more likely to be cancerous.

Thyroid ultrasonography is also utilized for guidance of a fine needle for aspirating thyroid nodules. Ultrasound guidance enables physicians to biopsy the nodule to obtain an adequate amount of material for interpretation. Such guidance allows the biopsy sample to be obtained from the solid portion of those nodules that are both solid and cystic, and it avoids getting a specimen from the surrounding normal thyroid tissue if the nodule is small.

Even when a thyroid biopsy sample is reported as benign, the size of the nodule should be monitored. A thyroid ultrasound examination provides an objective and precise method for detection of a change in the size of the nodule. A nodule with a benign biopsy that is stable or decreasing in size is unlikely to be malignant or require surgical treatment.

HOW ARE THYROID NODULES TREATED?
Your endocrinologist will use the tests mentioned above to arrive at a recommendation for optimal management of your nodule. Most patients who appear to have benign nodules require no specific treatment, and can simply be followed. Some physicians prescribe levothyroxine with hopes of preventing nodule growth or reducing the size of cold nodules, while radioiodine may be used to treat hot nodules.

If cancer is suspected, surgical treatment will be recommended. The primary goal of therapy is to remove all thyroid nodules that are cancerous; and, if malignancy is confirmed, remove the rest of the thyroid gland along with any abnormal lymph nodes. If surgery is not recommended, it is important to have regular follow-up of the nodule by a physician experienced in such an evaluation.
Creating a “Climate of Preparedness”

Diabetes Experts Urge Patients to Prepare Before Disaster Strikes

By Greg Willis

It’s no secret that 2008 was a rough year for natural disasters. Hurricane Ike devastated Texas, wildfires swept through California and Florida, floods struck Iowa, an earthquake hit China, and the Midwest experienced a record-breaking tornado season. These events left millions displaced from their homes, and without access to the daily amenities of their lives. One story that often goes untold is the kind of problems this can cause for diabetes patients.

Diabetes affects more than 20 million people in the United States. The management of this disease requires daily medications, which can make these individuals vulnerable when natural disasters strike. These events can upset daily routines and may leave people without access to their homes, health care professionals, medications and medical supplies. This begs the question: How often do diabetes patients prepare themselves before disaster strikes?

“Not nearly enough,” said Dr. Victor Roberts, AACE spokesman and a clinical professor of medicine at the University of Florida. “When people think about disasters, preparing for an earthquake in Missouri isn’t first on their mind. But the fact is that disaster will strike at a moment’s notice and it pays to be prepared.”

That’s why the American Association of Clinical Endocrinologists (AACE) has developed a Diabetes Disaster Plan; a simple checklist of items patients are urged to prepare before disaster strikes. This checklist is applicable to a wide range of natural disasters, including earthquakes, tornadoes and flooding.

“Taking the time to prepare a disaster kit in advance is essential because once a storm or other emergency threatens, there isn’t going to be time to make all the necessary arrangements,” Dr. Roberts said.

Just ask Doug Proffitt. A news anchor for WHAS TV in Louisville, Kentucky, Proffitt is no stranger to natural disasters; he’s covered them live. During these times, the news team often spends days together, working and sleeping in the studio. He’s done it countless times in his 20-year career, all while making certain that access to his diabetes care was never interrupted.

“Several years ago, Kentucky had the worst winter storm in 100 years, getting roughly 20 inches of snow in 24 hours. It completely paralyzed the state,” Proffitt said. “I’ll never forget my wife driving down to the station in a 4-wheel drive Ford Bronco, just to bring me insulin and underwear.”

As Proffitt has witnessed first-hand, a natural or man-made disaster could happen anytime, anywhere. Unfortunately, not all disasters come with ample warning, so it’s important to assemble a Disaster kit now.

Some preparatory measures from the AACE Diabetes Disaster Plan include:

• Making a list of all medical conditions and prior surgeries.
• Documenting information about your diabetes, including past and present medications, any adverse reactions to medications, and past and present complications.
• Making a list of all medications, which also includes pharmacies and active prescription information and eligible refills.
• Preparing and properly storing a 30-day supply of medications for diabetes and all other medical conditions. For those with diabetes, this includes insulin, oral anti-diabetic agents and a glucagon emergency kit (if prescribed by your physician).

Making your own Disaster kit is a quick and easy process. Learn how at www.powerofprevention.com.
What is an endocrinologist?

A medical expert specializing in the treatment of endocrine disorders, including diabetes, thyroid dysfunction, growth hormone deficiency, osteoporosis, Polycystic Ovarian Syndrome (PCOS), cholesterol disorders, hypertension and obesity.

What is osteoporosis?

- A condition in which the amounts of bone density and structure are abnormal, making them more fragile.
- Those with osteoporosis are more susceptible to fracturing or breaking bones.
- It is most common among women, but men can also suffer from the disease.

What is Polycystic Ovarian Syndrome (PCOS)?

- A metabolic disorder common among reproductive-age women in which the ovaries do not function properly.
- PCOS is the leading cause of infertility among women.
- Common features include:
  - Irregular or absent menstrual cycles
  - Acne
  - Scalp hair loss
  - Abnormal excess body hair
  - Elevated insulin levels
  - Ovarian cysts
- Although there is no cure for PCOS, it is a manageable condition.

What is diabetes and how can it be controlled?

- A disorder associated with a high glucose (sugar) level in the blood affecting more than 170 million people worldwide.
  - Type 1 diabetes:
    ◦ Occurs when the body does not produce insulin
    ◦ Usually sets in before age 20
    ◦ Only affects 5 to 10 percent of the population
  - Type 2 diabetes:
    ◦ Occurs when the body does not properly respond to insulin
    ◦ Is the most common, affecting more than 22 million Americans
- A treatable condition that can further be controlled with a healthy diet and exercise.
- Very important to control long-term blood glucose levels.
- The hemoglobin A1c test summarizes your blood glucose levels from the two or three months prior to the date the test is given in order to monitor the progress of the disease.
- AACE recommends an A1c target of 6.5 or lower for most patients.
Bioidentical hormones are not FDA regulated. For that reason, the hormone content of each pill or patch may vary greatly, resulting in too much hormone or too little. Also, there are no data showing that these bioidentical hormones are safe or effective. A few bioidentical hormones (estradiol and progesterone) are FDA approved but even these have no long-term safety or efficacy track records.

Should men take testosterone for male menopause?

About one third of men will experience falling testosterone levels as they age (called andropause, like the menopause) and some of these men will become symptomatic. They may be fatigued, lose muscle mass and bone, and be unable to enjoy satisfactory sexual relations. They may not live as well or even as long as men with higher testosterone levels. However, taking testosterone can cause problems, including enlargement of the breasts and the prostate. If a man has prostate cancer, the testosterone may cause growth of the tumor. Also, the testicles may get smaller, and some men may have trouble stopping the testosterone. So there are risks and benefits to this treatment, which must be discussed.

Why do some obese individuals not get complications like diabetes and heart disease while others do?

A study has been done to see why some obese individuals do not get diabetes, heart disease, stroke, and high blood pressure while many obese individuals do get these complications. The answer is physical activity. Those obese men who exercised regularly (carefully) were much less likely to get those complications than the obese individuals who did not exercise.

EXTREME MAKEOVER - Diabetes Edition

Type 2 diabetes currently affects more than 22 million Americans. It can be controlled by maintaining an active and healthy lifestyle. AACE Healthy Menu Makeovers are designed to provide people who have type 2 diabetes with healthy recipes for making their favorite foods. Here’s an example:

**Vegetable Potato Salad with Italian Dressing**

**INGREDIENTS** *(Yields 8 Servings)*

- 1 pound red or white potatoes, peeled
- 1/4 cup diced celery
- 1/4 cup diced green peppers
- 1/4 cup diced red peppers
- 1 1/2 teaspoons basil
- 3 tablespoons non-fat sour cream
- 1/3 cup low-fat Italian dressing
- 2 teaspoons mustard
- 1/2 teaspoon seasoned salt
- 2 teaspoons sugar substitute (Splenda) brown sugar blend
- 1/4 teaspoon freshly ground pepper
- Paprika and fresh herbs, optional

**DIRECTIONS**

1. Peel potatoes and cut into 1 1/2 - 2 inch cubes. Cook potatoes in a large pot until tender, about 10 minutes. Do not overcook.
2. Drain the potatoes and let them cool.
3. In a large bowl, combine the potatoes, celery, green and red peppers, and basil.
4. In a small bowl, stir together sour cream, Italian dressing, mustard, seasoned salt, sugar substitute (Splenda), and pepper. Pour the dressing over the potatoes and toss gently until thoroughly coated. Refrigerate at least 4 hours to blend flavors and chill. Sprinkle with paprika and garnish with fresh herbs.

For more Healthy Menu Makeover recipes and tips, please visit www.journeyforcontrol.com.

**DIABETES WARNING**

Prediabetes is a condition affecting more than 56 million Americans. It’s often described as the “gray area” between normal blood sugar and diabetic levels. While in this range, patients are at risk for not only developing type 2 diabetes, but also for cardiovascular complications.

That’s why the American College of Endocrinology (ACE) and the American Association of Clinical Endocrinologists (AACE) have developed treatment guidelines that focus on lifestyle intervention as a "cornerstone" in preventing the onset of type 2 diabetes.

**LIFESTYLE INTERVENTION**

- Preparing healthy meals (low in salt)
- Physical exercise (30 to 60 minutes of exercise at least five days a week)
- Reducing weight by 5-10 percent (Even this modest degree of weight loss will result in decreased fat mass, blood pressure, and glucose)

**MEDICATION**

- For patients with severe risk factors, pharmacologic intervention may be appropriate.

For more details and a complete list of suggestions, visit the AACE Web site at powerofprevention.com.
KIDZ ZONE

WHAT IS THE THYROID GLAND?

IT'S ALL ABOUT YOUR THYROID!

SEE IF YOU CAN FIND THE WORDS BELOW IN THE WORD SEARCH!

BALANCE
BRAIN
DISEASE
DOCTOR
EXERCISE
FUNCTION
GLAND
HEALTH
HEART
KIDNEYS
LIVER
NECK
SKIN
TREATMENT

Q L W E K I T Y H Q L S
X D I L C E A G J E P K
N I A V G X A L T R A I
E S O H E E A A R E Q N
I E H E A R T N E K O E
B A L A N C E D A I F C
R S E L G I F O T D O K
A E S T E S E E C M N S X
I E E H U N E N T E E E A
N L O T E U H O N Y U Y
Z W D R F J T R T S E N
C R C E E L E R C L T A
THE THYROID GLAND IS THE SMALL, BUTTERFLY-SHAPED ORGAN LOCATED IN YOUR NECK THAT HELPS:
- YOUR BODY USE ENERGY
- YOUR HEART, BRAIN, LIVER, KIDNEYS AND SKIN FUNCTION

WORD SCRAMBLE!

- YHTDIOR
- ADGNL
- NEYREG
- CXEEISRE
- LHAEHT

CONNECT-THE-DOTS

HINT: FUN ACTIVITIES TO HELP YOU STAY FIT!

CAN YOU SPOT THE DIFFERENCES BETWEEN THESE TWO PICTURES? (HINT: THERE ARE THREE!)

P O W E R O F R E V E N T I O N

ANSWERS

WORD SCRAMBLE: THYROID, GLAND, ENERGY, EXERCISE, HEALTH

PICTURES: 2ND PICTURE HAS A DUCK IN THE POND, FRISBEE IS RED INSTEAD OF BLUE, AND THERE ARE NO CLOUDS IN THE WATER
Battling Thyroid Cancer

“DEE”

BY GREG WILLIS

Talk about driven. Dee is the very definition of the word. She’s a hard-working, intelligent woman, thriving in the hustle and bustle of downtown Manhattan. Dee works as a consultant in corporate communications, and hasn’t slowed down much in the last ten years - despite battling thyroid cancer.

Ten years ago, she was an undergraduate about to attend Columbia University in New York. Before beginning the fall semester, she scheduled an appointment with the family doctor for an annual physical. Despite feeling fine, the doctor noticed something odd: A lump in her throat.

“The lump was quite insignificant,” Dee said. “In fact, it could only really be seen from the side. It came as a surprise that this could potentially be something worth worrying about.”

After she discovered the lump, Dee underwent surgery to have the cyst removed. During surgery, cancer was discovered.

“Looking back on it now, I should’ve ordered a biopsy immediately after they noticed the lump in my throat,” she said. “But I was 24, and being a potential candidate for cancer never even crossed my mind for a second. It was surprising.”

Dee then underwent a full thyroidectomy to remove all of the cancerous areas around her thyroid one month later. Her thyroidectomy was performed at Beth Israel Medical Center in Boston.

Since the diagnosis 10 years ago, she has undergone six additional surgeries related to the thyroid cancer. During that time, she continued her studies at Columbia University and then went on to get her Masters at the London School of Economics and Political Science. “It certainly made for hectic semesters,” Dee joked.

“My family was very supportive of my choices during that time,” she said. “They encouraged me to do whatever I wanted, but to make certain that I was receiving good care.”

And essentially that’s what she has continued to do. Her endocrinologist of 10 years, Dr. Jeffrey Garber of Harvard Vanguard Medical Associates, reports that although the cancer is not completely cured, she’s in great health and continues to live a normal and exciting lifestyle.

“I’ve been insistent that this won’t stop me,” Dee said. “And I haven’t let it.”

“Looking back on it now, I should’ve ordered a biopsy immediately after they noticed the lump in my throat,” she said. “But I was 24, and being a potential candidate for cancer never even crossed my mind for a second. It was surprising.”
All We Do is About You

Serving our patients is the heartbeat of our work. From breakthrough scientific research to innovative products, our mission is to make a difference in the treatment and care of people all over the world. Just like you.
The American College of Endocrinology (ACE) and the American Association of Clinical Endocrinologists (AACE) would like to thank Abbott Laboratories for 15 years of continued support for Thyroid Awareness Month.