January is Thyroid Awareness Month.

ALSO FEATURED:
- PITUITARY TUMORS: WHAT YOU NEED TO KNOW Page 8
- DIABETES CARE FOR AFRICAN AMERICANS Page 11
- UNDERSTANDING THE PARATHYROID Page 24
When kids with type 1 diabetes go off to camp, we help them pack.

Lilly believes everyone, including those who grow up with type 1 diabetes, should look back fondly on childhood as a time of fun, freedom, and learning. That’s why we provide Lilly Camp Care Packages, supplying children at diabetes camps with book packs filled with educational materials and resources to help them manage their diabetes.

For more information, please visit LillyDiabetes.com.
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EmPower, 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, EmPower 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 91 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 this issue of EmPower Magazine. This magazine is being distributed in offices of endocrinologists throughout the nation who belong to the American Association of Clinical Endocrinologists (AACE). We trust that something in this issue will either help you to improve your own health or the well-being of someone close to you.

In honor of the 18th year of our annual Thyroid Awareness campaign, this issue features a special section on thyroid health. You will read about the important role of the thyroid during pregnancy as well as environmental and nutritional factors that may affect the way your thyroid works. We are excited to present the new brand of Thyroid Awareness, the blue paisley ribbon, and a campaign to help us reach our goal that all people whose thyroid gland does not function normally are properly diagnosed and treated. As part of our ongoing efforts to engage as many communities as possible in this campaign, we are continuing our series “Faces of Thyroid Awareness,” real stories about people living with thyroid dysfunction. In addition to appearing in this issue, these stories are also featured on our website www.ThyroidAwareness.com.

This edition of the magazine also addresses a variety of other endocrine-related conditions, including diabetes, pituitary tumors and parathyroid surgery. You will learn about the importance of addressing healthcare disparities in general and about diabetes care for African Americans, in particular. We are also pleased to continue our partnership with the National Diabetes Education Program (NDEP) to provide special educational resources on diabetes management, which in this issue is about transitioning teens with type 1 diabetes from pediatric to adult care.

EmPower Magazine is just one of many initiatives created by the American College of Endocrinology in conjunction with AACE. You can read past issues of the magazine and learn more about the program at EmPowerYourHealth.org.

We encourage you to read this issue and consider all aspects of your endocrine health. We always welcome your feedback! If you would like to share your story with us, simply send an e-mail to feedback@empoweryourhealth.org. We look forward to hearing from you!

Sincerely,

JEFFREY R. GARBER, MD, FACP, FACE
GUEST EDITOR

Dr. Jeffrey R. Garber is presently Chief of Endocrinology at Harvard Vanguard Medical Associates and a member of the Beth Israel Deaconess Medical Center and Brigham and Women’s Hospitals endocrine divisions. He is an Associate Professor of Medicine at Harvard Medical School, where he played a substantive role in the clinical training of more than 35 endocrine fellows. Dr. Garber currently serves as President Elect of the American College of Endocrinology (ACE). His book, The Harvard Medical School Guide to Overcoming Thyroid Problems, was written for members of the lay public interested in learning about thyroid disorders.
POWER OF PAISLEY: the New Symbol of Thyroid Awareness

BY KAREN PAN

Ask almost any person what a pink ribbon means – or any of the other thousands of pink-themed items in October of each year, including food products, merchandise, and even the NFL – and they will tell you it is about breast cancer. Fighting breast cancer. Curing breast cancer. We know the ribbon itself is not what fights breast cancer—it is people uniting behind the symbol of the pink ribbon that creates the power to change.

Thanks in large part to the pink campaign, you know about breast cancer. But, what have you heard about the thyroid? How much do you know about thyroid disease? Did you know more than 30 million Americans have thyroid disorders, yet more than half remain undiagnosed and untreated? Surprising to many, thyroid disease is more common than diabetes and heart disease. Thyroid disease is even more common than breast cancer. In fact, more Americans suffer from thyroid disease than all types of cancers combined.
WHAT IS A THYROID, AND WHAT HAPPENS WHEN IT IS NOT WORKING PROPERLY?

The thyroid is a small gland located in the base of the neck. It is shaped like a butterfly and produces thyroid hormones. Thyroid hormones are very important because they influence how all other bodily cells, tissues and organs function. For instance, your heart, brain, liver and kidney all depend on the correct amount of thyroid hormone to do their jobs properly.

Thyroid dysfunction [dis-FUNK-shun] occurs when the thyroid produces either too much or too little thyroid hormone. This is a problem because it disrupts so many other functions in your body. If your thyroid is making too much hormone, the condition is called hyperthyroidism [hie-per-THIGH-roid-is-m]. Or, if it is producing too little hormone, you have hypothyroidism [hie-po-THIGH-roid-is-m]. Also, the thyroid can develop lumps called nodules. They're usually not cancerous, but in some cases may be.

Knowing when your thyroid is not working properly may be difficult, which is one of the reasons so many cases remain undiagnosed. Symptoms may include fatigue, unexplained weight loss or gain, moodiness, and anxiety. Thyroid disease can affect anyone, but women are five times more likely than men to suffer, and a person’s risk increases with age.

The good news is that once a thyroid condition is identified it can be successfully treated. With proper treatment one can resume a healthy lifestyle without restrictions. Increasing awareness and understanding of thyroid dysfunction and its symptoms is the first step to being diagnosed. Our ultimate goal is that there will be no undiagnosed and untreated cases of thyroid dysfunction.

WE WELCOME THE BLUE PAISLEY RIBBON AS THE NEW SYMBOL FOR THYROID AWARENESS!

Will you become a thyroid advocate? It doesn’t take much, we promise, and it includes an attractive accessory. We are asking you to join the thyroid awareness campaign by proudly displaying the blue paisley ribbon. Paisley was chosen because of its resemblance to a cross section of thyroid follicles [FAH-lik-uhls], the tiny spheres that the thyroid gland is made up of. Wear a blue paisley ribbon during January, which is Thyroid Awareness Month. Or, you could simply wear paisley, be it a tie, scarf, blouse or skirt. After all, whose appearance doesn’t improve with a little punch of paisley?

Blue paisley probably won’t reach “pink” awareness levels overnight, but little by little we can spread the message of thyroid awareness. We want people to know what a thyroid is, to know it is important for the function continued on page 4
Continued from page 3

of their bodies, and to know the common symptoms. Blue paisley gives thyroid advocates – including patients, endocrinologists [en-doh-cri-NA-lo-jists], families, friends and other medical providers – something to unite behind to spread a very important message.

A new website dedicated to thyroid awareness is a great resource to learn more information. Visit www.ThyroidAwareness.com.

Perhaps you recently have been diagnosed with thyroid dysfunction, or maybe a friend or loved one has. We have designed a website to empower you with knowledge. Check out www.ThyroidAwareness.com to learn how your thyroid works, how to perform a “Thyroid Neck Check,” get answers to frequently asked questions, find the top ten facts about the thyroid, and learn about specific conditions and treatment options.

FINAL WORD

We aren’t ready to claim that paisley is the new pink, but we are proud and excited to establish a symbol to unify thyroid awareness efforts. We hope you will join us and wear your blue paisley to share the thyroid message. Together, with the power of paisley, we can make progress toward the goal: that all thyroid disorders be properly diagnosed and treated.

Remember, if your thyroid isn’t working properly, neither are you! 🌸
Imagine finding out that you have a thyroid nodule, when you thought that all you had was a "swollen gland" and an upper respiratory infection. For Stacey Thureen, a visit to the doctor turned into the discovery of a nodule on the left side of her thyroid and not a "swollen gland." Fear, confusion, and disbelief are some of the immediate feelings that come to mind, right?

Stacey grew up in New Jersey and attended college in Iowa. She worked hard on her double major in English and Communication Studies and also swam competitively for the University of Iowa Hawkeyes. This hard work and dedication led Stacey to the communication and media industry where she currently works on projects for non-profit, print and production outlets. Stacey's busy career and new diagnosis was daunting, but she knew that with good doctors and a strong support group she could get through this difficult situation.

After Stacey had further testing including a biopsy with a very small needle called a fine needle aspiration, doctors decided the best plan of action was to remove the left side of Stacey's thyroid gland, also known as a partial thyroidectomy. "When I was told I needed surgery, I remember feeling that I trusted the doctors' guidance," Stacey reflects, "I had peace of mind knowing that they were doing everything they could to help me and my overall thyroid health."

After her surgery on June 10, 2011, Stacey received more news. She had an autoimmune disease known as Hashimoto's thyroiditis and hypothyroidism. Hashimoto's thyroiditis is a condition where the body's immune cells produce antibodies which can damage thyroid cells and cause hypothyroidism when not enough thyroid hormone is being made. This is the most common thyroid disease in the United States and is seven times more common in women than men. Stacey was immediately put on synthetic thyroid hormone medication to balance out her hormone levels.

This story line probably holds true for many patients whose thyroid glands are not working properly, but Stacey has an added obstacle. Stacey’s family suffered four losses prior to her diagnosis and one loss three days after her surgery.

"My faith and my husband's support have given me strength through this process," Stacey says.

She says that her support system of friends and family enabled her to talk about her feelings and fears while going through this difficult time. To anyone else going through similar experiences, whether it is a newly diagnosed disorder or losing a family member, Stacey urges people to talk about it with others. “By sharing your story you find a support system that you did not know existed,” she explains. Stacey discovered that many other women in her life were also affected by thyroid problems. It is comforting for Stacey to know that there are other people going through the same thing as her.

After sharing her story with friends and family, Stacey decided to use her communication and media talents to share her story with the public. She was featured on the show Better Living with Liz Walker, produced by The Walker Group, LLC. This story showed the journey from discovery to treatment to acceptance of Stacey’s thyroid problem.

Stacey’s advice to other people going through similar situations is simple: “Take it one day and one step at a time. Your support system will help you through anything.”

To learn more about Stacey and her story, or to watch the Better Living with Liz Walker segment, visit www.StaceyThureen.com. To learn more about the thyroid conditions and treatments, visit www.ThyroidAwareness.com.

("Editor's Note: A term that is commonly used by the public for enlarged lymph nodes due to upper respiratory infections.")
INTRODUCTION

Thyroid health during pregnancy is very important for both the mother and the fetus (unborn child). During pregnancy the mother’s thyroid hormone crosses the placenta [pluh-SEN-tuh] and is needed for the growth of the fetus. When the mother’s thyroid produces either too little or too much thyroid hormone, serious side effects can occur. So, it is extremely important that during pregnancy the mother’s thyroid is working normally. During the last 20 years there has been much research on the effect of thyroid disease on the mother and developing child. The research has shown that women may develop thyroid problems for the first time during pregnancy. To promote thyroid health during pregnancy, the American Thyroid Association published guidelines in October 2011 on all aspects of thyroid health during pregnancy (http://thyroidguidelines.net/pregnancy). The guidelines have been carefully reviewed and endorsed by the American Association of Clinical Endocrinologists [en-doh-cri-NA-lo-jists].

What changes happen with the mother’s thyroid gland during pregnancy? Pregnancy can be viewed as a “thyroid stress test.” During pregnancy the thyroid gland must make 50% more thyroid hormone. To do this, the mother also has to increase her intake of iodine (which is needed by the thyroid gland to make thyroid hormone) by 50%. So, the guidelines recommend that all pregnant and breastfeeding women take a daily prenatal vitamin that contains 150 mcg of iodine. This is very important because recent studies suggest that many women of childbearing age in the United States have low iodine levels.

HYPOTHYROIDISM (AN UNDERACTIVE THYROID)

There are 2 types of hypothyroidism [hie-po-THIGH-roid-is-m]: minimal to mild, which is called subclinical hypothyroidism, and more severe, which is called overt hypothyroidism. Overt hypothyroidism can lead to a miscarriage, preterm delivery, decreased IQ in the unborn child, and gestational [jeh-STAY-shun-ull] hypertension (high blood pressure during pregnancy). Subclinical hypothyroidism has also been associated with miscarriage, preterm delivery, and decreased IQ.

Women with hypothyroidism and on thyroid hormone replacement usually need to increase their dose during...
Teenage rebellion is thought to be a common occurrence for most children, but Jenna knew that her mood swings and severe depression were more than teenage angst. At the age of 15, Jenna was told she has an autoimmune disorder called Graves’ disease. This disease attacks the thyroid and leads to hyperthyroidism. To learn more about Jenna’s story and Graves’ disease visit ThyroidAwareness.com.

**PATIENT STORY**

Teenage rebellion is thought to be a common occurrence for most children, but Jenna knew that her mood swings and severe depression were more than teenage angst. At the age of 15, Jenna was told she has an autoimmune disorder called Graves’ disease. This disease attacks the thyroid and leads to hyperthyroidism. To learn more about Jenna’s story and Graves’ disease visit ThyroidAwareness.com.
WHAT IS THE PITUITARY GLAND?

The pituitary [pih-TOO-ih-tare-ree] is a small endocrine [EN-doh-krin] gland at the base of the brain that controls many different organs of the body. It is called the “master gland” of the endocrine system. It controls growth, metabolism [meh-TAB-o-liz-um], reproduction, and sexual function. Hormones from the pituitary interact with target organs in the body, such as the thyroid, adrenal, and reproductive glands (ovaries in females, testes in males).

WHAT ARE PITUITARY TUMORS?

The pituitary gland can develop abnormal growths (tumors) or cysts (a fluid collection). These pituitary abnormalities are quite common and as many as one in five people in the general population have a small such abnormality. In fact, pituitary tumors are the third most common primary brain tumor. Though the pituitary lies below the brain, tumors of the pituitary gland can affect the brain and the visual system as they grow larger. Pituitary tumors and cysts are rarely cancerous, but they cause problems by either putting pressure on surrounding structures (such as eye nerves) or by causing pituitary hormone abnormalities (too much or too little hormone).

HOW ARE PITUITARY TUMORS DIAGNOSED?

Symptoms are variable from person to person, ranging from no to many symptoms. The symptoms depend on the type of tumor and whether it is associated with a hormonal abnormality. Patients often, but not always, complain of headaches. If the tumor is large it can put pressure on the eye nerves and cause visual loss, especially of the peripheral [per-IF-er-al] (side) vision. Pituitary tumors can cause too little or too much pituitary hormone to be produced and symptoms vary depending on which hormone is
affected. Weakness and fatigue are common complaints of pituitary patients. Since pituitary tumors typically grow very slowly, it may be hard to recognize when symptoms begin. Pituitary tumors are generally diagnosed with brain imaging (MRI) to assess the structure and size of the tumor, vision testing, and hormonal laboratory testing to determine pituitary function. The diagnosis and treatment options are best determined by a team approach that involves the neurosurgeon, endocrinologist [en-doh-crin-ologist en-doh-cri-na-lo-jist], and ophthalmologist [ahf-thal-MOL-o-jist].

WHAT ARE THE MOST COMMON HORMONALLY ACTIVE PITUITARY TUMORS?

1. Prolactinoma [pro-lack-tin-O-ma] – These tumors secrete too much of the pituitary hormone prolactin. Prolactin is important for breast feeding. Common symptoms in women include breast discharge, irregular or absent menses, and infertility. Common symptoms in men include decreased sex drive, sexual problems, and infertility.

2. Cushing’s disease – This is a tumor that produces too much of a hormone that stimulates the adrenal gland to make excessive cortisol. Symptoms of Cushing’s disease can include weight gain (obesity), excess hair growth, hypertension, diabetes mellitus, and psychological disturbances.

3. Acromegaly [ack-ro-MEG-a-lee] – This disease is caused by a tumor that secretes too much growth hormone. Children with acromegaly develop gigantism [jy-GAN-tiz-um]. In adults, too much growth hormone causes changes in facial features, enlarged hands and feet, enlarged internal organs, hypertension, and diabetes. Acromegaly can also be associated with obstructive sleep apnea and carpal tunnel syndrome.

HOW ARE PITUITARY TUMORS TREATED?

Treatment options depend on the size and nature of the pituitary abnormality. Surgery is often the treatment of choice for most large tumors, except for prolactinomas, which are typically treated with medication. Modern pituitary surgery requires only a small incision, is highly effective, and relatively safe. Pituitary tumors can be removed by operating through the nasal airway using a special piece of equipment called an endoscope [EN-doh-scope]. The procedure takes 3 to 4 hours. The risk is similar to operations for gallbladder disease. The operation is done under general anesthesia [an-es-THEEZ-ee-uh] and most patients do not have much pain after the procedure. Those who might need surgery include patients with very severe headaches that interfere with daily life, loss of vision from pressure on the optic nerves by the tumor, and a pituitary gland that has stopped working. Additionally, surgery may be the best way to control excessive hormone secretion. For most patients the hospital stay is 2-3 days and the time away from work is 2-4 weeks depending on the patient. Vision improves most of the time after successful surgery. Medication therapy is also available for treatment of acromegaly. Finally, radiation is sometimes required for more invasive types of pituitary tumors. Hormone replacement therapy is available for patients who have lost pituitary hormone function. Using a combination of expert medical therapy and pituitary surgery, most patients obtain excellent control of their disease and lead normal lives.

Although pituitary tumors are benign, over time they can recur. For that reason, long term scheduled follow-up visits are required. Patients should see their endocrinologists on a regular basis. He or she will monitor hormone production. Patients should also regularly see their neurosurgeon, who will review MRI scans. The rate of recurrence of pituitary tumors is generally less than 10% in 10 years, and new techniques and new forms of medical therapy will improve all the outcomes of pituitary surgery.
Millions of people have diabetes...
But only one of them is you

That’s why we created Cornerstones4Care™
Cornerstones4Care™ is a new kind of program for people with diabetes and those who care for them. This free program gives you 24/7 access to tools like a menu planner, an online blood sugar diary, tips for making physical activity a part of your life and more. Join today, and you may be eligible for a co-pay card that could save you up to $50.

Join Today and Save!
Get a co-pay card that may save you up to $50 off your co-pay for a diabetes medicine.
Go to cornerstones4care.com/copay
Rates of new cases of diabetes (mainly type 2) have soared in the United States over the last 20 years. One of the ethnic groups with the greatest rise is the African American population. Over 12% of African Americans have diabetes. Women and the elderly have the highest rates. One in four African-American women over age 55 has diabetes and 25% of African Americans between the ages of 65 and 74 are affected. African Americans are almost two times more likely to have diabetes than non-Latino whites.

WHY ARE SOME PEOPLE MORE PRONE TO DIABETES THAN OTHERS?

We don’t know exactly why. Some scientists believe that African Americans inherited a “thrifty gene” from their African ancestors. This gene helped Africans “store up” food in their bodies during abundant times and use food energy efficiently during periods of famine. But now that food is abundant for many Americans, this thrifty gene is making many African Americans get diabetes because they are becoming obese.

Some studies show that there is a problem in how insulin is put into the blood stream (secreted) and how well it works (sensitivity or resistance) in African Americans compared with non-Latino white people. This may explain why they are more likely to develop diabetes. The number of African Americans that are overweight and/or obese has risen significantly in the last 50 years. This is partly because people tend to have jobs that aren’t as physical as they used to be. Also, the diet has changed to eating more high-calorie cheap foods that are rich in carbohydrates and saturated fats but low in fiber.

WHAT OTHER FACTORS AFFECT DIABETES CARE FOR AFRICAN AMERICANS?

In the US, African Americans with diabetes are less likely to get routine diabetes care and services to prevent complications. They also have higher blood sugar levels than non-Latino whites. Major health care
barriers include less access to health services and low income and education. Compared with non-Latino whites, African Americans have more joblessness, lower income, and are more likely to be uninsured or on programs like Medicaid. Many African Americans receive medical care from community health centers in their neighborhood. However, these facilities are usually subsidized by the government and have much less resources than private health clinics. More and more doctors no longer see patients with Medicaid because they don't get proper reimbursement. This further limits access to quality health services.

Many African American patients with insurance cannot afford out-of-pocket health expenses for their drugs, diabetes testing supplies, and healthier foods that they should be eating. Thus, these patients are not able to stick to their treatment plan. Many live in areas that are unsafe for outdoor exercise and have very few sources for fresh fruits and vegetables. It is important to note that differences in social status and access to care do not fully explain why African Americans have poorer control of diabetes. African American patients with diabetes tend to receive lower quality of diabetes care even when they have the same health insurance and receive care in the same setting as non-Latino whites. The cause of health care differences among insured populations is an active area of research. Studies suggest that diabetes care is better when health care providers understand African American culture and design therapy taking this into account.

Other factors are associated with poor diabetes outcomes in African Americans. African Americans are less likely to take their medications or monitor their blood sugar every day. They are more likely to miss medical appointments. They may not have the money to take their medications as directed. African American patients often report that they don't understand instructions about their medical treatment and don't know their target blood glucose. Many African Americans with diabetes often feel that there is nothing they can do to change things about their disease, so they stop trying. Men especially distrust the medical system because of past racial injustice. African Americans also have a more relaxed attitude towards overweight body image. This may also result in a tendency toward diabetes. Overweight has been seen as a sign of good health while being thin is associated with stigma of disease or drug use.
WHAT ARE THE CONSEQUENCES?

The lower quality of diabetes care that African Americans receive has serious consequences. African Americans experience higher rates of complications from diabetes than non-Latino whites. They are 50% more likely to develop diabetes-related eye disease and blindness, four times more likely to develop kidney disease, and three times more likely to have a lower-limb amputation compared with non-Latino whites. Also, many more African Americans are hospitalized for diabetes. Diabetes is now one of the leading causes of death and disability among African Americans in the United States. Death and diabetes complication rates have dropped for the whole country in the past 10-20 years, but African Americans still lag behind non-Latino whites.

HOW CAN DIABETES COMPLICATIONS BE PREVENTED?

Despite the higher prevalence and complications from diabetes, African Americans can prevent many complications by improving their diabetes control. Diabetes can also be prevented in this ethnic group by adopting a healthier lifestyle. In the Diabetes Prevention program study, which was a multi-ethnic study, healthy diet and exercise reduced the incidence of diabetes by 58%, and was better than taking medication. The lifestyle group achieved this significant reduction in risk of diabetes by losing just 5%–7% of their body weight. A recent 10-year study of more than 200,000 men and women over age 50 found that the risk of diabetes was lowest among those with five healthy behaviors:

- Maintaining a normal body weight (BMI below 25)
- Never smoking or smoke-free for over 10 years
- Doing at least 20 minutes of intense activity more than three days a week
- Consuming a healthy diet
- Drinking very little alcohol.

A person’s risk of diabetes was lower the more healthy behaviors they had. These five healthy behaviors lowered diabetes risk even in those with a family history of diabetes.

If you are at risk for diabetes you must adopt healthy lifestyle habits and make sure that you are routinely screened for diabetes. One way to do this would be to make sure it is part of your annual physical exam with your health care provider.

If you are currently living with diabetes, there are many things you can do to improve your care and help your medical team provide better care to you. In most instances, this team will consist of a variety of health care providers like doctors, nurses, dietitians and diabetes educators. The more active part you play in managing your diabetes, the better your blood sugar control will be.

Healthy habits that positively impact your diabetes control include:

- Taking your medications as directed
- Checking blood sugar levels on a regular basis
- Taking good care of your feet
- Keeping your medical appointments
- Doing regular physical activity
- Eating a healthy diet rich in complex carbohydrates and low in simple sugars and saturated fat
- Medical visits:
  - Routine visits with your medical team
  - Yearly eye exam to screen for changes related to diabetes
  - Foot check-ups with the podiatrist.

WHAT TO DO TO PREPARE FOR YOUR MEDICAL APPOINTMENTS

- Bring a list of your medications, blood glucose log and meter.
- Ask questions about things you do not understand.
- Learn about how the medications you take for your diabetes work to keep your blood sugar levels normal.
- Make a list of questions and bring them with you.
- Speak to your team about any concerns you have about side effects of medications you are taking. We now have a variety of medications for diabetes so your doctor may be able to switch you to something else.

Continued on page 26

PATIENT STORY

Family is an important part of Dina’s life, especially when it comes to facing life’s challenges. That’s why when Dina found out she had thyroid nodules and should have thyroid surgery, she decided to spend the summer before her surgery making memories with her family. After the summer, Dina had her entire thyroid removed and underwent radioactive iodine treatment to completely eliminate her thyroid. It was after her thyroid was removed that she found out she had thyroid cancer. As Dina adjusts to this life change, she continues to see the positive in every situation and cherish the time with her family. To learn more about Dina and treatments for thyroid conditions, visit ThyroidAwareness.com.

THYROID AWARENESS MONTH
PARENTS OF TEENS WITH DIABETES: Tips for Moving from Pediatric to Adult Health Care

Moving from teenage years to adulthood can be stressful for teens with diabetes and their families. Teens and young adults need to take on more diabetes tasks and make more judgments about their health care needs. At the same time, young adults face more pressure in their social lives and at school or work. Young adults living away from home for the first time may have a new doctor and health care team—or no doctor at all.

These challenges can result in poor diabetes care and medical problems that young adults will need to handle on their own. As more young people develop diabetes, their ongoing health care needs will need to be addressed by the adult health care team.

There is good news. New tools can help young adults with diabetes manage their diabetes and health care. The National Diabetes Education Program (NDEP)—a program of the National Institutes of Health, the Centers for Disease Control and Prevention, and more than 200 public and private partners—has created an online tool, “Transitions from Pediatric to Adult Health Care,” with resources to help the young adult, their family, and their health care team who provide them with health care.

TIPS FOR SUCCESS

How can parents prepare their teenagers to manage their diabetes care as they go off on their own? Here are several tips for success:

1. Start getting ready at least one to two years in advance. The NDEP tool has a “Transition Planning Checklist” that helps the health care team, the young adult, and the family prepare.

2. Help young people become active partners in their health. As young adults take on a bigger role when it comes to their health and well-being, they need to be prepared to manage their diabetes in many types of situations such as when they travel or during an illness. They must know how to prevent and/or manage any diabetes crises.

3. Prepare a summary of the teen’s health status. NDEP provides a “Clinical Summary” resource that their current health care team and the family can fill out and provide to the new health care team.

4. Encourage your child to seek support from other young people with diabetes. NDEP’s online tool provides a list of online discussion groups, forums, and message boards.

5. Find support for yourself. Parent support groups and resources can help you cope with the changes while you learn to support your child.

6. Locate adult health care professionals and insurance options. NDEP’s tool contains information on how to find a doctor, dietitian, or education program. In addition, you can find local health clinics that are either free or not costly.

Parents play a key role in helping their older teenagers get ready for life as adults. With thoughtful planning, your child can live independently with diabetes—and thrive.

For more information, visit the National Diabetes Education Program (NDEP) website, www.YourDiabetesInfo.org/Transitions.
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.
Help us reach the ultimate goal:
That all people with thyroid dysfunction be properly diagnosed and treated.

www.ThyroidAwareness.com
AACE recently created a statement called “Policy for the Elimination of Healthcare Disparities in the USA.” This statement asserts:

AACE actively opposes the continued existence of endocrine healthcare disparities in the USA, and will devote its resources to diminish these disparities. AACE members, staff, partners and others with whom AACE interacts will continue to advocate for understanding, prevention and elimination of endocrine healthcare disparities.

(To read the full position statement, visit www.aace.com/publications/position-statements.)

But why does AACE have a statement on healthcare disparities? Why make this a focus for members of AACE? The answer is because AACE believes that to best treat people with endocrine diseases all medical professionals must be aware of the many differences that make one person different from the next. This includes:

- The different risks and impact certain diseases may have on them
- What the best choice of therapy is
- Access to care
- The ability to afford medical care.

SO WHAT DOES THIS REALLY MEAN?

Let’s take a look at diabetes.

In the US, there is a higher incidence of type 2 diabetes [dye-uh-BEE-teez] (the most common form of diabetes) in Latino, Asian, and African American people compared with white people. The reasons for this are not known. Some people might be more likely to get diabetes, partly, because of how well the insulin made in their body works.

In 2009 more than 14% of American Indians and Alaska natives over 19 years old who received care from the Indian Health Service had diabetes. Rates varied a great deal depending on the region of the country that they came from. For example, about 5% of Alaska native adults had diabetes. Yet more than 33% of American Indian adults living in southern Arizona had diabetes. See below for the big difference in diabetes between ethnic groups and subgroups.

Risk of Developing Diabetes Compared to Non-Latino Whites

- Asian Americans: 18% higher
- Latinos: 66% higher
- African Americans: 77% higher

Risk of Developing Diabetes Among Latino Compared With Non-Latino Whites:

- Mexican Americans: 87% higher
- Puerto Ricans: 94% higher
- Cubans: Equal

Continued on page 18
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- Central Americans: Equal
- South Americans: Equal

Clearly, there are different rates of diabetes in different populations.

WHAT ABOUT PREDIABETES PROGRESSING TO DIABETES?

About 60 million Americans have prediabetes [PREE-dye-uh-BEE-teez]. People with prediabetes have blood sugar levels that are higher than normal but not high enough to be diagnosed as diabetes. People with prediabetes are more likely to end up with diabetes than those with normal blood sugars. It is not known if ethnicity is a risk factor for going from prediabetes to diabetes. The Diabetes Prevention Program looked at whether people at very high risk of diabetes that exercised and made changes to their diet and lost weight could avoid getting diabetes. People with a high fasting blood sugar level, whether of white, African American, Latino, American Indian or Asian ethnicity, all got diabetes at an equal rate. But this finding was very different from earlier studies done in San Antonio and Colorado. The earlier studies found that Latino people in a prediabetes state had a higher risk of developing diabetes than non-Latino whites. More studies are needed for us to know whether one group is more likely than another to develop diabetes.

We also do not know if diabetes drugs might lower the risk of developing diabetes. In the Diabetes Prevention Program taking metformin [met-FOR-min] (a common diabetes treatment) lowered the risk of developing diabetes. But there was no difference in risk reduction due to ethnicity. Yet other studies have shown very different results. In a study called the DREAM study (in which people took rosiglitazone [ROE-zi-GLI-ta-zone]), progression to diabetes in those with prediabetes went down by more than 40% in all ethnic groups. But the reduction was smaller in South Asians and greater in Latinos. Differences in age, sex, body mass index (a measure of weight, taking into account also height or a measurement of waist-hip ratio) did not explain the difference seen by ethnicity.

So prevention of diabetes in different ethnic populations remains confusing as to what might or might not work. More research is clearly needed!

WHAT ABOUT DIABETES COMPLICATIONS?

African Americans and Latinos in the US have a higher risk of end-stage kidney disease and diabetes eye disease. Although eye exams find effects of diabetes on the eye, African Americans have fewer eye exams than others for diabetes eye disease. On the other hand, Asians with diabetes have a lower risk of heart attack and foot amputation compared with whites.

SHOULD TREATMENT OF DIABETES AND/OR DIABETES COMPLICATIONS BE DIFFERENT IN DIFFERENT ETHNICITIES?

People with diabetes are at greater risk for heart disease and heart attacks than the general population. African Americans with diabetes are more likely than whites to have a bad lipid profile, which puts them at high risk for heart disease. African Americans generally need to focus on improving LDL and HDL levels, and whites generally need to pay more attention to triglycerides [try-GLIS-er-ides].

IN PERSPECTIVE

We just reviewed differences in only one disease. There are differences seen in race, sex, economic status, and country of origin that relate to many conditions, such as bone disease, obesity, high blood pressure, and other conditions that have not even been studied as much as diabetes. Education and research needs to be supported so that we can prevent or at least better manage these conditions among different groups. To do this we need to address the issues of access to care as well as its cost, which contributes to healthcare disparities in the US.
Renal impairment is the leading microvascular complication associated with type 2 diabetes (over 40%), followed by retinopathy (28.5%) and neuropathy (19.4%)—it is important to recognize these complications as soon as possible. According to the National Kidney Foundation, diabetes and renal impairment are considerably underdiagnosed, which may lead to disease progression because of missed opportunities to provide appropriate care for patients with these conditions.

Microalbuminuria (albumin in the urine ≥30 mg/day or ≥20 µg/min) is the earliest clinical evidence of renal disease.

Patients with renal impairment may have poor glycemic control (A1C ≥7%), may have hypertension (BP ≥130/80 mm Hg), and may have dyslipidemia as well as other comorbidities.

It’s important to recognize microvascular complications in patients with type 2 diabetes as early as possible. Microalbuminuria is the earliest sign of renal disease, the leading microvascular complication, in type 2 diabetes.
Low thyroid function should be considered when someone complains of typical symptoms, such as fatigue, weight gain, constipation, and dry skin. But as you can imagine, these symptoms could also be due to many other causes. So a diagnosis of low thyroid function must always be made by your doctor and generally requires a “TSH” test (See link). The standard treatment for low thyroid function is levothyroxine [le-vo-thigh-ROX-een], a synthetic medicine that is basically the same as the thyroid hormone that your own thyroid gland produces.

From time to time, you may get advice about other ways to treat low thyroid function or hypothyroidism [hie-po-THIGH-roid-is-m]. The source could be the internet, a friend, or even a doctor or nurse. Besides making sure that you actually have low thyroid function, properly diagnosed by your doctor, you should be aware of some important points about the use of dietary supplements that are marketed or claimed to have thyroid-related actions. Bear in mind as you read this that there are no scientific studies showing that dietary supplements actually improve thyroid function in any significant and safe manner. As more research is done, some dietary supplements may show promise, but levothyroxine is still the proven, safe way to treat low thyroid function.

There are three broad types of dietary supplements that you may encounter regarding your thyroid.

**SUPPLEMENTS THAT CONTAIN A LOT OF IODINE**

Kelp, a type of seaweed, contains a lot of iodine. Kelp may be suggested as a logical and natural way to boost the function of your thyroid. After all, thyroid hormone contains iodine so increasing the amount of iodine in your diet should be good for your thyroid, right? Unfortunately, this is not the case. In fact, a high level of iodine intake may reduce the amount of thyroid hormone secreted or released from your own thyroid gland.

**SUBSTANCES THAT ARE CLAIMED TO PROMOTE THYROID FUNCTION**

B-complex vitamins, garlic, ginger, gingko, licorice, L-tyrosine, magnesium, manganese, meadowsweet, oats, pineapple, potassium, saw palmetto, selenium, tiratricol (TRIAC), and valerian have all been claimed to improve thyroid function. The theory behind many of these claims is attractive
and very interesting. However, there is not enough data to support using these substances instead of levothyroxine for the treatment of hypothyroidism or an underactive thyroid.

**ANIMAL-DERIVED THYROID EXTRACTS OR DESICCATED [DESS-IH-KATE-ED] THYROID**

Desiccated thyroid has been used to treat hypothyroidism for many years, but is rarely taken anymore. Most people switched to levothyroxine by the end of the 1970s. People may also seek out thyroid extract as a treatment for low thyroid function because they prefer “natural” treatments. Though this type of treatment still works by replacing the missing thyroid hormone from the body, it does not provide levels that are either as consistent or easy to monitor as levothyroxine does. In fact, if you search the internet for controlled clinical trials involving low thyroid hormone treatment, you will find a lot of strong evidence for levothyroxine and virtually none for thyroid extract.

So, when it comes to the treatment of any medical condition and specifically an underactive thyroid, the safest and most effective treatments should be used.

Remember these key points:
- If you suspect that you have low thyroid function, see your doctor.
- If you truly have low thyroid function, levothyroxine should be used.
- At the present time, there is no proven role for the use of dietary supplements to boost thyroid function.
- If there is any doubt or question about an accurate diagnosis or best treatment for low thyroid function, consult an endocrinologist [en-doh-cri-NA-lo-jist].

Everyone has a passion for something in life and for Kimberly that passion is raising awareness for Graves' disease. In 2008, Kimberly was told that she had hyperthyroidism and later that year, she learned that she has a type of immune system disorder called Graves’ disease. Kimberly decided to take a proactive approach to her disease and began volunteering with the Graves’ Disease and Thyroid Foundation to help raise awareness about this thyroid condition. After years of dedication to the organization, Kimberly was hired as the Executive Director of the Foundation. To learn more about Kimberly, visit ThyroidAwareness.com. To learn more about the Graves’ Disease and Thyroid Foundation, visit www.ngdf.org.
INTRODUCTION

Substances in the environment, known as endocrine [EN-doh-krin] disruptors, can alter hormone function. Most research has focused on substances that affect reproductive [ree-pro-DUK-tiv] hormones. However, more than 100 natural and synthetic substances have effects on thyroid function. Because thyroid hormone is needed for the body to develop normally before birth and in early life, anything in the environment that may affect the thyroid is a major concern for pregnant women and infants.

PERCHLORATE

Perchlorate [per-KLOR-ate] is used in many things, such as rockets, fireworks, road flares, matches, and air bag systems. Some fertilizers contain perchlorate and low levels may also be found in the environment due to natural processes. Perchlorate is present in some drinking water in the United States and worldwide. It has also been found in foods such as lettuce and other produce, wheat, cows’ milk, wine, beer, and multivitamins. At high doses, perchlorate can block iodine from the thyroid gland. Since iodine is needed to make thyroid hormone, thyroid hormone levels might be decreased with even low-level exposure.

Almost everyone in the United States is likely exposed to perchlorate. In one study, higher levels of perchlorate in the urine was associated with lower blood thyroid hormone levels. However, recent studies in pregnant women have shown no link between being exposed to perchlorate and having a change in thyroid hormone levels. Even though research is ongoing and the effects of low-level perchlorate on the thyroid remain unclear, the Environmental Protection Agency has recently decided to limit perchlorate levels in the US drinking water supply.

THIOCYANATE AND CIGARETTE SMOKE

Thiocyanate [thigh-oh-SIGH-uh-nate] is a chemical that, like perchlorate, can block the thyroid from absorbing iodine. Thiocyanate is found in cigarette smoke and plant foods such as cassava, cabbage, turnips, broccoli, Brussels sprouts, and cauliflower. Large studies testing the effects of cigarette smoking on thyroid function have had varied results. However, it is known that women who smoke during pregnancy are more likely to give birth to babies with low thyroid hormone levels in their blood. Women in the first trimester of pregnancy have lower thyroid hormone levels when they are smokers vs. non-smokers. A recent study showed that cigarette smoking lowers the amount of iodine in breast milk. This may be related to the thiocyanate in...
cigarette smoke. Diets high in thiocyanate can be part of the reason someone develops goiter (enlarged thyroid) in parts of the world where there is not enough iodine in the diet.

**PCBs**

In the past, PCBs were used as coolants and lubricants in transformers, capacitors, and other electrical equipment. Starting in the late 1960s there were concerns about the toxicity of PCBs and their ability to persist in the environment. Due to these concerns, production of PCBs was outlawed in the US in 1979. Although levels of PCBs have decreased, PCBs remain widespread in the environment and the food chain because their presence persists for years. The structure of PCBs is similar to that of thyroid hormone, and they are thought to alter the actions of thyroid hormone in body tissues. Babies exposed to PCBs before birth have lower intelligence. This might be because PCBs interfere with the way thyroid hormone helps the brain develop normally.

**BISPHENOL-A**

Bisphenol [BISS-feh-nol]-A (BPA) is used in food containers, baby bottles, and reusable water bottles, and is found in linings of some metal food cans. It may leach from these containers into stored food and drink. Studies in rats have shown that BPA can block thyroid hormone actions, but this has not been clearly shown in humans.

**TRICLOSAN**

Triclosan [try-KLO-san] is an antibacterial [an-ti-bak-TEER-e-ul] agent that is found in soaps, toothpastes, skin care products, plastics, and fabrics. At high doses in rats, triclosan decrease thyroid hormone levels. Lower-level triclosan exposure has had varying effects on thyroid hormone actions in frogs. In the only human study, brushing teeth with a triclosan-containing toothpaste for two weeks raised blood triclosan levels, but did not alter thyroid function.

**PBDES**

PBDEs have been used as flame retardants in plastics, foams, building materials, carpet, and upholstery. PBDEs are slowly released from these products into the environment. PBDEs have been detected in many foods. Exposure may also come from inhaling indoor air and contact with house dust. In animal studies, PBDE exposure causes low thyroid hormone levels. However, results of the few human studies, to date, have not shown consistent effects of PBDEs on the thyroid.

**ISOFLAVONES**

Isoflavones [eye-so-FLAY-vones] are found naturally in soy products, peas, beans, nuts, grain products, coffee, and tea. Large doses can decrease thyroid hormone. Infants fed soy formula without enough iodine nutrition may develop low thyroid function. Since all infant formulas marketed in

the US now contain iodine, this is not currently a problem. Recently 13 out of 14 studies of the effects of soy or isoflavones on thyroid function in healthy adults showed only a small decrease in thyroid hormones or no effects.

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### PATIENT STORY

Cooking at home can be a hassle and very time consuming, especially when you have to eat a low-iodine diet, you can’t have processed foods and you must make everything from scratch. Lisa understands these challenges firsthand. She was diagnosed with thyroid cancer and had her thyroid removed. Lisa’s physician prescribed a low-iodine diet, which required her to specially prepare all of her food. Lisa realized that other people may have the same diet restrictions, so she began developing new recipes for low-iodine meals. Now, Lisa is the proud owner, operator and CEO of her own low-iodine meal supply company called MediChef ([www.medichef.com](http://www.medichef.com)). To learn more about Lisa’s story please visit ThyroidAwareness.com.
WHAT ARE THE PARATHYROID [PARA-THIGH-ROID] GLANDS?

Although they sound alike and are next to each other in the mid-lower neck, the functions of the thyroid and parathyroid glands are not the same. Normal parathyroid glands are quite small, only a few millimeters wide (about a tenth of an inch), and weighing only about 50 mg (well under an ounce!). There are typically four parathyroid glands; two on the left and two on the right. The parathyroid glands produce a hormone called parathyroid hormone, commonly known as PTH. PTH is responsible for controlling the calcium levels in our bodies. It works to keep our blood calcium level within the normal range. It does so by its effect on the bones, which store calcium; the intestines, which absorb calcium; and the kidneys, which excrete calcium. When our parathyroid glands are normal in size and are working properly, PTH levels increase slightly when our blood calcium level goes down, and decrease slightly when our blood calcium level goes up. This delicate balancing system keeps calcium in our bones and makes them strong and not as likely to break.

WHAT IS HYPERPARATHYROIDISM?

When the parathyroid gland(s) grow larger than normal, they can overproduce PTH in an uncontrolled fashion. This is what we call hyperparathyroidism [hi-ep-per-pa-ruh-THIGH-roid-is-m] (HPT). HPT affects 1/1,000 people overall, and is more common in women. Overgrowth of the parathyroid gland(s) is almost always benign [BEE-nine] (not cancerous). Too much PTH leads to high calcium levels in the blood, weakening bones and producing mild loss of bone called osteopenia [os-tee-oh-PEEN-nee-uh] or even severe loss known as osteoporosis [os-tee-oh-puh-ROH-sis]. When the bone loss is severe, bone breaks can occur with very little trauma. The excess calcium level in the blood is then filtered through the kidneys, which over time can lead to kidney stones, kidney damage, and even kidney failure. HPT can also cause other problems, including pancreatitis [pan-kree-uh-TITE-iss] (an inflamed pancreas, the organ that produces insulin and digestive enzymes), bone pain, muscle weakness, depression, memory loss, and trouble concentrating. Despite the common finding of high blood calcium and PTH levels, features of HPT from patient to patient may be quite varied. For example, one person with the condition may have kidney stones and normal bones, and someone else may have bone loss, but no kidney stones.

The following is a list of the most common features of hyperparathyroidism.

• Bone loss (osteopenia and osteoporosis)
• Kidney stones
• Frequent need to urinate (up at night to the bathroom several times)
• Stomach ulcers and chronic abdominal pain, constipation
• Pancreatitis
• Memory loss and difficulty concentrating
• Bone and joint aches
• Muscle weakness
• Irritability
• Chronic fatigue and low energy

It is important to keep in mind that there are many other medical conditions that can cause these signs and symptoms. So, we cannot always assume that all of the typical HPT symptoms in a patient with HPT are...
due to PTH and high calcium levels. However, patients with HPT often note an improved sense of well-being when their condition is successfully treated.

**HOW IS HYPERPARATHYROIDISM DIAGNOSED?**
With typical cases of HPT, the blood calcium level rises only slightly and causes very few symptoms. That is why HPT is usually picked up on routine blood work, when a higher than normal calcium level is detected at a yearly physical in an unsuspecting patient. Other routes of detection include patients with osteoporosis or kidney stones who are tested for the condition. Rarely, blood calcium levels can become dangerously high, producing confusion, lack of energy, and finally even coma. Making the diagnosis of hyperparathyroidism is usually straightforward, with the measured calcium and PTH higher than normal. At the time of diagnosis, vitamin D levels are also usually checked, as vitamin D is important for maintaining calcium balance in our bodies.

**HOW IS HYPERPARATHYROIDISM TREATED?**
The only known cure for hyperparathyroidism is surgery (removal of the overgrown parathyroid gland(s)). Once the diagnosis of HPT is made, the patient must talk with their doctor(s) and decide if surgery is the best course of action. If it is, neck scans are generally done to find out which of the four parathyroid gland(s) is overgrown, and where the suspected gland is located. In most cases, only one gland has enlarged. Once the neck scans are completed, the doctor and patient will review the results and discuss the surgical plan. Most often, the surgery only requires a small incision in the mid-lower part of the neck to remove the diseased/overgrown gland(s). Parathyroid surgery has changed a lot in the past 10-20 years. Neck scars are kept as small as possible and there are fewer chances for problems related to surgery. Most importantly, the overall cure rate is excellent, with the calcium and PTH levels typically returning to normal within a few days. Once the condition is corrected, the patient will then discuss with his/her endocrinologist [en-doh-cri-NA-lo-jist] and primary care doctor the need for long-term calcium and vitamin D supplements.

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When Clint sets his mind to something, nothing can stop him. He had already overcome many obstacles in life, including beating alcoholism and losing more than 150 pounds. Then Clint found a lump in his neck that turned out to be a cancerous thyroid tumor, and doctors also found cancerous tumors in his lymph nodes. Always a fighter, Clint had two surgeries to remove his thyroid, lymph nodes and other cancerous tissue, followed by radioactive iodine therapy. Even today, Clint continues to fight, as he recently discovered a tumor in his lung, too. Read Clint’s full inspirational story and learn more about thyroid cancer at ThyroidAwareness.com. 

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* **PATIENT STORY**

* **THYROID AWARENESS MONTH**
Thyroid Health and Pregnancy, continued from page 7

**POSTPARTUM THYROIDITIS**

Postpartum thyroiditis (PPT), another autoimmune condition, is a thyroid disease in the postpartum period in women who typically do not have a history of having a thyroid disorder. Eight percent of all women (or approximately one out of every 12 women) will develop PPT. Women with postpartum [post-PAR-tum] thyroiditis [thigh-roid-EYE-tis] may be diagnosed any time during the first year following childbirth. If the diagnosis is made in the early stages of the condition, an overactive state (too much thyroid hormone, called hyperthyroidism) is more likely. During later stages of the condition, the thyroid runs out of thyroid hormone and becomes an underactive thyroid (too little thyroid hormone, called hypothyroidism). Most women will recover fully and have normal thyroid function at the end of the first year after childbirth. The ATA guidelines provide recommendations for the treatment of both the hyperthyroid and hypothyroid phases. The guidelines also recommend yearly monitoring in women who had an episode of PPT because they are at higher risk for getting permanent hypothyroidism.

**CONCLUSION**

Thyroid health during pregnancy is important for the mother and developing baby. All pregnant women should take prenatal vitamins with iodine. Women with pre-existing thyroid disease need special monitoring and treatment during pregnancy. Because both hypothyroidism and hyperthyroidism cause serious side effects, first trimester screening of women at high risk for thyroid disease is recommended.

The Thyroid and the Environment, continued from page 23

**SUNSCREENS**

Studies in rats have shown that ingredients in certain sunscreens may alter the body’s ability to process thyroid hormone. These sunscreen ingredients have been found in wastewater treatment plants, are known to build up in fish, and have been found in human milk. Sunscreens, cosmetics, and diet can expose a person to these thyroid hormone-altering ingredients. In one human study, one week of applying sunscreen with these ingredients to the entire body every day did not alter thyroid function.

**SUMMARY**

Common environmental exposures such as cigarette smoke may affect thyroid function. People may be most vulnerable to these effects in early life, since thyroid hormone is needed for normal brain development. More studies are needed to better understand the risks.

Diabetes Care for African Americans, continued from page 13

- Let your team know if you cannot afford your medications or testing supplies so that they can design a more affordable diabetes treatment plan.
- Know what an A1C level is and know your target A1C (estimate your average blood sugar level in the last three months). The goal A1C according to the American Association of Clinical Endocrinologists (AACE) is 6.5%, which equals an average blood sugar level of 126 mg/dL, but may be higher for some people with diabetes who have other medical conditions.

**OTHER RELATED CONDITIONS**

Heart disease remains the number one cause of death for people with diabetes in this country. So, in addition to controlling your blood sugar levels, you have to take care of the other risk factors for heart disease like high cholesterol, hypertension, and smoking. Your blood pressure should be less than 130/80 mm Hg and target for LDL (bad cholesterol) is under 100mg/dL, or under 70mg/dL if you already have heart disease. Create a chart to keep track of your A1C, LDL, and blood pressure levels. If your blood pressure, A1C, or LDL levels are higher than desired, find out from your doctor how your treatment plan will be changed to achieve this.

In managing a chronic condition like diabetes, a positive outlook is essential. There will be times when you feel tired of testing the blood sugar or exercising or paying very close attention to your diet. Some people feel very guilty about this and stop coming to medical appointments. This is the wrong approach to take. This is the time to lean on your diabetes team. Let them know where you are struggling so they can help you get back on track.
Supporting the activities of the American College of Endocrinology helps to provide continuing education for endocrinologists and develop important lifestyle management resources for the community through the EmPower initiative. EmPower provides resources for you such as EmPower Magazine and an interactive website. You can make a donation to the College in honor of a family member, friend or your endocrinologist. We will send a card to you and to the person you honor detailing your generous contribution. An annual list of supporters will also appear in EmPower Magazine. You can mail your contribution to the American College of Endocrinology at 245 Riverside Avenue, Suite 200, Jacksonville, Florida, 32202. You can also donate online at EmPowerYourHealth.org/donate.

By donating to the College, you can help ensure that future of endocrine care is bright.

Thank you!
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