# Endocrinologists Color of the leading magazine for pendocrinologists Color of the l

# FEAR Factor

THERE'S ONLY ONE WORD THAT SCARES PATIENTS, FAMILIES, AND DOCTORS ALIKE: CANCER.

HOWEVER, BREAKTHROUGHS IN ENDOCRINE RESEARCH ARE FINDING INNOVATIVE PROCEDURES AND THERAPIES THAT COULD POTENTIALLY EASE FEARS AND SAVE LIVES.

- The possible link between BPA exposure in utero and breast cancer as an adult.
- Is there a potential reprieve for pancreatic cancer patients?
- How patient vanity is creating a new "robotic" thyroidectomy option.
- A tumor by any other name: A look behind the reclassification of one thyroid cancer.

#### **SHOW ME THE MONEY:**

11 ways to get your endocrine research started.

#### WHY ENDOCRINOLOGY?

For Howard Baum, MD, it all started with calcium metabolism.



1916-2016 100 YEARS OF HORMONE SCIENCE TO HEALTH

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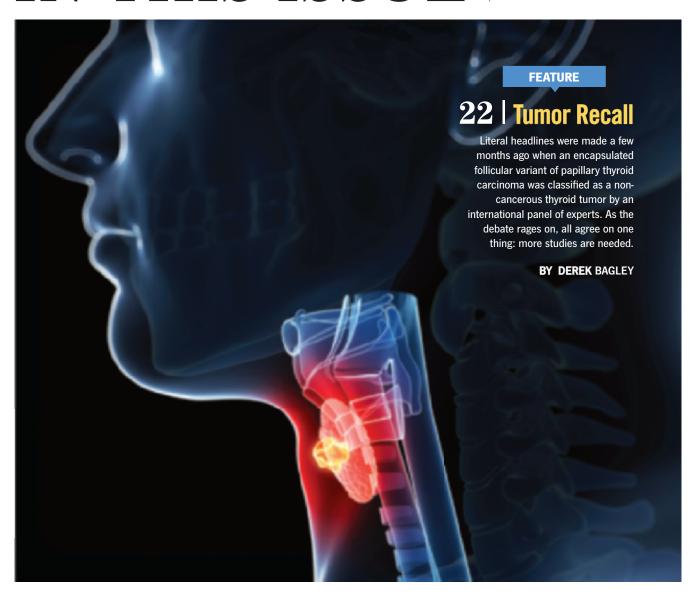
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1916-2016 100 YEARS



## The Endocrine Society Goes Global to Improve Health Worldwide

VERYONE INVOLVED IN ENDOCRINE SCIENCE and practice learns quickly that these are international enterprises, enriched by collaborations that routinely cross national boundaries. So it is no surprise that 40% of the Endocrine Society's members come from outside the U.S., from 122 countries. The worldwide participation in our annual meeting, our journals, and other activities both enrich the experiences and create a mandate to optimally serve our members all over the world.

Equally important, the international nature of the Endocrine Society reinforces the importance of our mission outlined in Direction I of our Strategic Plan to "lead endocrine science and medicine toward the goal of improved human health worldwide." This is, of course, easier said than done. To accomplish our goal, we must form partnerships with other organizations and listen carefully to the ideas of others.

Earlier this year, Council established a Global Strategy Advisory Task Force to propose a framework for engagement with endocrine researchers and clinicians around the world. The task force will present its recommendations to Council at our November meeting, and we will be implementing these recommendations next year.

For some time now, we have focused on creating collaborative relationships worldwide, working with local societies or endocrinologists to create useful programs around the world. I can illustrate the scope of our current activities by briefly summarizing some of the most recent international activities that have taken place in the last few months.

This past August, during the Peruvian Endocrine Society Annual Meeting, we held the Society's first Highlights of ENDO in Peru. And, through strategic partnerships with three local organizations, we also launched EndoCares: Diabetes, the Society's first global patient/provider outreach program. Together, we were able to reach 1,012 healthcare providers, 500 patients with type 2 diabetes, 100 patients with type 1 diabetes, and key government officials in charge of healthcare policy. In addition, through onsite membership sign-ups, we increased our Peruvian member

count from 37 to 170 members. I would like to give particular credit to past president Lisa Fish, MD, who envisioned and championed the EndoCares concept.

Last month, participated in a joint obesity session the International Congress Endocrinology (ICE) held in Beijing, China, in conjunction with the Chinese Society of Endocrinology. This session was a collaboration between the International Society of Endocrinology (ISE), the European Society of Endocrinology (ESE), and the Endocrine Society. The session was very well attended, and we are already planning a similar activity for the European Congress of Endocrinology next May in Portugal.

For some time now. we have focused on creating collaborative relationships worldwide, working with local societies or endocrinologists to create useful programs around the world.

In late September, we attended the congress of the Sociedad Brasileira de Endocrinologia y Metabologia (SBEM) in Brazil. The Endocrine Society symposium consisted of five speakers covering a wide array of topics such as obesity, adrenal, andrology, lipids, and bone metabolism. This is our third collaboration with the SBEM, and we look forward to future partnerships.

#### PRESIDENT'S VIEWPOINT



Later this month, we will be co-hosting the fourth EndoBridge program in Turkey. This is a collaboration with the Society of Endocrinology and Metabolism of Turkey (SEMT) and the ESE. The meeting attracts endocrinologists from Turkey as well as the Middle East, Russia, and Central Asia.

Other international activities that will take place later this year include collaborations with the Saudi Diabetes and Endocrine Association (SDEA), the Egyptian Association of Endocrinology, Diabetes, and Atherosclerosis (EAEDA), and the Sociedad Mexicana de Nutricion y Endocrinologia (SMNE.)

We look forward to continued collaborations with these and other global partners and getting advice from the Global Task Force about new ways to collaborate further with global partners. Just as our international members enrich our Society, so can a robust global strategy further all the missions of the Endocrine Society. If you have any questions or comments, feel free to contact me at **president@endocrine.org**.

— Henry M. Kronenberg, MD, President, Endocrine Society

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#### **OCTOBER 2016**

## Endocrine

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#### FROM THE EDITOR



### **Endocrine News** e-newsletter Launching in October

HANKS TO THE UNPRECEDENTED SUCCESS OF ENDOCRINE NEWS in recent years in terms of advertising dollars and reach, an electronic newsletter will be launched later this fall.

It's likely that by the time you have received this issue of the magazine, you should've already received E-Endocrine News in your inbox. Scheduled to launch on Wednesday, October 5, E-Endocrine News will be sent out the first and third Wednesday of each month. The decision to launch this new entity was based on the need to stay in more regular contact with you than a monthly print magazine allows. It's not only a means to communicate but also a way to remind you about the great original content in the print magazine that you might have missed. The focus is and will always be on the stellar print version you receive each month, but the newsletter will feature additional content that the magazine won't - or can't - include due to print schedules.

While much of the newsletter's content will consist of links to stories in that month's issue, there will also be breaking news and other original stories that will not appear in print. As the publishing landscape has changed, having a more immediate method of staying in touch with readers is a necessity. Since we actually get a number of late-breaking news items into our office, the new electronic newsletter is an ideal way to share them with you immediately.

The newsletter will be yet another way for recipients to further engage with fellow members of the Endocrine Society. Moving forward, we want Endocrine News to really focus on the accomplishments and the achievements of the distinguished professionals that comprise the Society's membership. So we're going to capitalize on that by highlighting more news about members through the newsletter. The Endocrine Society membership is what separates *Endocrine News* from the other publications in this arena, and we want to make the most of this advantage in every way possible!

There will be a number of new features and columns that will be published in Endocrine News beginning in 2017 that will really highlight this new emphasis on member achievements. So stay tuned to these pages as we move forward!

- Mark A. Newman, Editor, Endocrine News

## **Society Past President** Teresa K. Woodruff **Participates in Reddit AMA**



ast month, former Endocrine Society president Teresa K. Woodruff, PhD, professor of obstetrics and gynecology at Northwestern University in Chicago, participated in an Ask Me Anything (AMA) session on the social media site Reddit. The platform allows the participant to field questions from "Redditors," and each question and answer generated much more discussion than we can put here, but we thought we'd share some of the highlights:

A Redditor with the handle figgy\_puddin had a question about the increasing rates of infertility and wondered whether endocrine-disrupting chemicals played a role in this trend. Woodruff responded that we live in a modern world, with more chemicals in our environment than ever before. "The specific impact on ovarian or testicular function directly or on the gonadotropin hormones that that you mention are still under investigation in many laboratories," she writes. "The changing landscape of fertility/infertility is no doubt being impacted at the developmental level and in adults. The magnitude of difference between these two has not been compared."

Another Redditor named le vicious had a question about polycystic ovary syndrome (PCOS), writing that she has PCOS but is not currently trying to conceive. "How does this disorder affect me and what more can I do to regulate my hormones and help ovulation occur?" she asks.

Woodruff writes that nearly 10% of women have PCOS, and notes that her lab is looking at mechanisms behind PCOS and have found that the physical rigidity of the ovary may be a culprit in this disorder. "When we change the rigidity of the matrix that we use to grow follicles, the more rigid the ovary the more androgen is made," she writes. But that's not the only factor at play, Woodruff explains. Genes and EDCs are also implicated in PCOS. "So PCOS is likely a series of diseases, each with its own origins," she writes. "As we learn more about each factor we will be able to treat PCOS in a more personalized way! Stay tuned for more science on this!!"

And KnightofBaldMt had a great question, asking whether obesity had an effect on fertility. Woodruff points out that the obesity epidemic affects all kinds of health outcomes and is "starting to shake down the walls of our health. The food that we eat, the times that we eat it, and the way chemicals in processed food change the hunger centers in our brain are all contributing to these issues," she writes. "These are the externals associated with obesity and the medical outcomes that are their consequences. Weight loss is hard in this setting but is associated with good outcomes in reproductive health and for overall health."

#### — Derek Bagley

Editor's Note: A more in-depth discussion of Woodruff's Reddit AMA can be found online at the Endocrine News website at endocrinenews.org/woodruff.



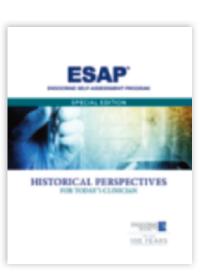
## **Endocrine Society Launches MACRA** Webpage

he passage of the Medicare Access and Chip Reauthorization Act (MACRA) resulted in an entirely new payment system that reimburses clinicians based on value rather than volume.

Many practices will have to make significant changes to the way they provide care in order to avert payment penalties. The Endocrine Society launched a new webpage designed to provide our members with a one-stop shop for resources to help with the transition to the new payment system and is accessible at: www.endocrine.org/macra. The new website also includes a recording of the September 2016 Clinical Endocrinology Update meeting session in Seattle that provided attendees with a comprehensive overview of MACRA.

The Society is here to support endocrinologists through the transition to the new payment system, but we need to hear from you about what would be most valuable. We encourage you to suggest additional resources to include on the webpage by contacting Stephanie Kutler, director, Advocacy & Policy Programs at skutler@ endocrine.org.

## **ESAP Special Edition Commemorates Society Centennial**



new edition of the Endocrine Society's ever-popular ESAP (endocrine selfassessment program) series has been released to honor the history of the Society as well as pay tribute to the trailblazers who have served as the Endocrine Society's presidents over the last 100 years.

Entitled ESAP Special Edition: Historical Perspectives for Today's Clinician, this volume allows the reader to sharpen his or her clinical skills while discovering the rich intellectual legacy of endocrinology in this special edition of the Endocrine Society's premier self-assessment tool.

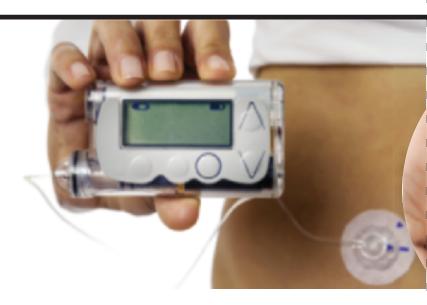
Written in the traditional ESAP style, this edition contains brand new cases focused on a range of endocrine topics. Along with an answer rationale, each case traces the rich heritage and legacies left by past presidents of the Society - many of whom were Nobel Laureate winners - and reflects on how patients would have been treated during those times. Along with acquiring hands-on knowledge in clinical endocrinology, readers will relish discovering how our leaders have contributed to shaping the practice of endocrinology.

#### How readers can benefit:

- Acquire hands-on knowledge in clinical endocrinology with brand new cases.
- Learn how medical leaders have contributed to shaping today's endocrinology practice.
- Understand the evolution of clinical treatments from past to present.
- Get up to 10 ABIM MOC points and CME credits.

Journey into the past to understand how to shape the future of endocrinology. Copies of this new book are available online at: www.endocrine.org/store.

## **New Clinical Practice Guideline Published on Diabetes Technologies**



n September, the Endocrine Society issued a Clinical Practice Guideline recommending continuous glucose monitors (CGMs) as the gold standard of care for adults with type 1 diabetes.

The guideline, titled "Diabetes Technology-Continuous Subcutaneous Insulin Infusion Therapy and Continuous Glucose Monitoring in Adults: An Endocrine Society

Clinical Practice Guideline," was published online and will appear in the November 2016 print issue of The Journal of Clinical Endocrinology & Metabolism (JCEM).

"Studies have found that people with type 1 diabetes who use CGMs are able to maintain better control of their blood sugar without increasing episodes of hypoglycemia when blood sugar drops to dangerous levels, compared to those who self-monitor blood glucose with periodic fingersticks," says Anne L. Peters, MD, of the University of Southern California's Keck School of Medicine in Los Angeles, Calif., and chair of the task force that authored the guideline. "Scientific evidence supports the use of CGM technology in individuals with type 1 diabetes whose blood sugar is above the targeted level as well as those whose blood glucose is well managed."

The guideline task force gave its strongest recommendation in support of using CGM technology in individuals with type 1 diabetes who are able and willing to use the monitors. The task force also suggested that CGMs can be used on a short-term, intermittent basis for individuals with type 2 diabetes whose blood glucose is above targeted levels.

The guideline task force also recommended the use of insulin pumps over multiple daily insulin injections in type 1 diabetes patients who have not met their A1C goals and are willing and able to use the device. In addition, pumps

> are recommended for people with frequent hypoglycemia or glucose variability, and those who require increased insulin delivery flexibility or improved satisfaction with their diabetes care. Insulin pump use was suggested for people with type 2 diabetes who were not meeting their glycemic goals.

> Regardless of what treatment technologies are used, the guideline recommends that all patients and healthcare providers be properly educated and trained to use the devices. "A device's success is directly linked to an individual's willingness to use and understand the technology," Peters says. "It

> is crucial to ensure patients are comfortable

with any devices they decide to incorporate

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Scientific evidence

supports the use of

**CGM** technology in

individuals with type

1 diabetes whose

blood sugar is above

the targeted level as

well as those whose

blood glucose is well

managed.

Other members of the Endocrine Society task force that developed this CPG include: Andrew J. Ahmann, MD, MS, Oregon Health and Science University in Portland, Ore.; Tadej Battelino, MD, PhD, of the University of Ljubljana and University Children's Hospital in Ljubljana, Slovenia;

into their treatment plans."



## **Society Members Honored** at ATA Annual Conference

our Endocrine Society members received prestigious awards from the American Thyroid Association (ATA) during its 86th Annual Meeting September 21 - 25 in Denver, Colo.

Those being honored were Nancy Carrasco, MD, who received the 2016 Sidney H. Ingbar Distinguished Lectureship Award; Gregory A. Brent, MD, who received the 2016 Distinguished Service Award; P. Reed Larsen, MD, who received the 2016 Lewis E. Braverman Lectureship Award; and the John B. Stanbury Thyroid Pathophysiology Medal was presented to Kenneth D. Burman, MD.

Carrasco, professor of cellular and molecular physiology at Yale School of Medicine, New Haven, Conn., is being recognized for her outstanding academic achievements in thyroidology. She has made seminal contributions to thyroidology, primarily through her discovery of the sodium/iodide symporter (NIS) and the characterization of its biochemistry and function. In 2015, in recognition of her seminal contributions to biomedical research, Carrasco was elected to the U.S. National Academy of Sciences.

Brent, chair of the Department of Medicine at VA Greater Los Angeles Healthcare System, is being recognized by his peers for his work with the ATA to support programs that brought together clinicians, scientists, and policy makers to address thyroid-related issues of significant impact.

Larsen, a member of the Thyroid Section, Division of Endocrinology, Diabetes and Hypertension, at Brigham and Women's Hospital, and professor of medicine at Harvard Medical School, Boston, delivered the Lewis E. Braverman Lecture, entitled "Deiodinases, Cofactors & the Low T3 Syndrome," at the ATA event. This award recognizes an individual who has demonstrated excellence and passion for mentoring fellows, students, and junior faculty, and who has a long history of productive thyroid research.

Burman, chief of the Endocrine Section at Medstar Washington Hospital Center, Washington, D.C., professor in the Department of Medicine at Georgetown University as well as program director of the Integrated Endocrine Fellowship, Georgetown University/Washington Hospital Center, was recognized for his outstanding research contributions to the understanding of thyroid physiology and the pathophysiology of thyroid disease. A former editorial board member of The Journal of Clinical Endocrinology & Metabolism, Burman's research focus has been in the areas of clinical pathophysiology, autoimmune thyroid disease, and thyroid cancer.



Alison Evert, MS, RD, CDE, and Irl B. Hirsch, MD, of the University of Washington Medical Center in Seattle; M. Hassan Murad, MD, of the Mayo Clinic Evidence-based Practice Center in Rochester, Minn.; William E. Winter, MD, of the University of Florida in Gainesville, Fla.; and Howard Wolpert, MD, of the Joslin Diabetes Center and Harvard Medical School in Boston.

The guideline was co-sponsored by the American Association for Clinical Chemistry, the American Association of Diabetes Educators and the European Society of Endocrinology.

The guideline will be published online www.endocrine.org/CPGDT ahead of print.

Editor's Note: Look for an in-depth feature on the guideline in the November issue of Endocrine News.

## **Endocrine Society Continues Work on Personal Care Products** Safety



he Society is working with the Senate on bipartisan legislation introduced by Senators Dianne Feinstein (D-CA) and Susan Collins (R-MA) known as the Personal Care Products Safety Act (S. 1014).

If passed, this bill would amend the Federal Food, Drug, and Cosmetic Act to allow the FDA to collect information on the ingredients of personal care products and prohibit distribution of a personal care product if an ingredient could cause serious adverse health consequences. It would also require the FDA to review the safety of at least five cosmetic ingredients each year.

On August 30-31, the Society participated in a Hill Day with other supporters of the bill, including several cosmetic companies. We met with staff from the offices of Senators Michael Bennet (D-CO), Chuck Schumer (D-NY), Lamar Alexander (R-TN), Sheldon Whitehouse (D-RI), and Patty Murray (D-WA). During the meetings, we learned that the bill faces an uncertain future, as the short work period before the election will prevent action on many pending bills in the Congress.

#### TAKE ACTION:

It is important that all senators hear from his or her constituents. Please join our online campaign at www.endocrine.org/Congress to urge senators to support S. 1014 so that the Congress will prioritize reform of personal care products. Joining our campaign is quick and easy. A pre-written letter will be provided for you. You will only need to either provide your email and member ID, or enter your address information so that the system will send your message to the correct recipients.

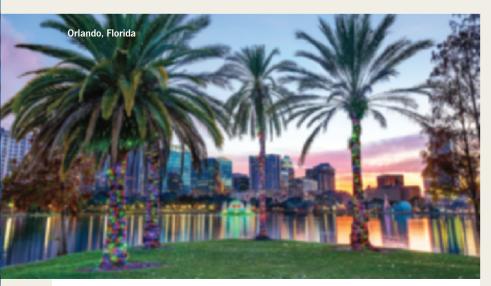
#### **Endocrine Society** Weighs in on TSCA **Implementation**

The Endocrine Society has been engaged in reform of the Toxic Substances Control Act (TSCA) and is closely following implementation of the Frank R. Lautenberg Chemical Safety for the 21st Century Act. On August 22, the **Endocrine Society submitted comments to the** Environmental Protection Agency (EPA) with recommendations to address deficiencies in the existing regulatory approach.

Recommendations included the following:

- EPA should develop a consistent approach and criteria that is applied in the same way to all studies in the risk assessment and chemical prioritization processes. This includes peer-reviewed academic literature.
- The term "Weight of Evidence" (WOE) should explicitly refer to a systematic review method that uses a pre-established protocol to comprehensively, objectively, transparently, and consistently identify and evaluate each stream of evidence, including strengths, limitations, and relevance of each study and to integrate evidence as necessary and appropriate based on strengths, limitations, and relevance.
- WOE approaches should also ensure that the EPA consider academic studies fully along with any other category of evidence.
- The default approach for evaluating risks from chemicals should be that there are risks at low doses and that a dose at which there is no effect must be proven.

Implementing these recommendations will ensure that EPA is able to consider the latest scientific studies when making regulatory decisions to protect the public from harms due to endocrine-disrupting chemical (EDC) exposures. For more information on the Society's comments, please see the full letter here. The Endocrine Society will continue to engage with EPA as it continues the development of guidance documents towards the full implementation of the new law. IN





#### **Orlando, Fla., April 1 - 4, 2017**

The Endocrine Society holds its annual meeting within arm's reach of the "happiest place on Earth" in Orlando. With over 9,000 attendees, nearly 3,000 abstracts, and over 200 other sessions, it is the leading global meeting on endocrinology research and clinical care. The meeting also hosts other satellite and pre-conference events, such as our Early Career Forum and Hands-On Thyroid Workshops.

www.endocrine.org/endo-2017

#### **Annual Endocrine Skills Summit 2016**

#### Chicago, III., October 7 - 9

Technology has become an integral part of clinical endocrinology practice in recent years as evidenced by recent advances in thyroid ultrasound, bone health assessment tools and meters, pumps, and continuous glucose sensors for the management of diabetes. Participate in engaging presentations covering practical patient management issues in diabetes, osteoporosis, parathyroid, and thyroid disease.

www.horizoncme.com

#### **Great Lakes Nuclear Receptor** Conference (GLNRC)

#### Cleveland, Ohio, October 19 - 20

The mission of the GLNRC is to spur research and collaboration among scientists from academia and industry interested in the area of nuclear receptors and to provide unique opportunities for interactions and career development for students and trainees. The conference is designed to provide an innovative format that establishes a

setting for intimate, informal gatherings of established principal investigators, young faculty, and trainees.

www.lerner.ccf.org/cmm/noy/GLNRC/

#### **EndoBridge 2016**

#### Antalya, Turkey, October 20 - 23

EndoBridge provides a comprehensive update in the field of endocrinology and is specifically designed for the clinical endocrinologist. The official language of the meeting is English, but simultaneous translation will be available in Russian, Arabic, and Turkish.

www.endobridge.org

#### ObesityWeek 2016

#### New Orleans, October 31 - November 4

The preeminent annual scientific and educational conference covers the full scope of the obesity issue, from cutting-edge basic science and clinical research to intervention and public policy discussions that can impact the quality of life for millions affected by obesity.

www.obesity.org

#### **PPTOX V**

#### Fukuoka, Japan, November 13 - 16

The international summit of Prenatal Programming and Toxicity (PPTOX) is dedicated to cutting-edge discussion of environmental hazards during early life and long-term consequences. PPTOX is one of the premier international venues for scientists to evaluate current knowledge and guide forward momentum for this burgeoning field.

www.pptoxv.com

#### **Translational Reproductive Biology and Clinical Reproductive Endocrinology**

#### New York, N.Y., November 17 - 20

The objective of this conference is to offer an authoritative update for reproductive clinicians and researchers, focusing on new translational developments in the field of reproductive biology and physiology, as well as clinically relevant patient-care issues. The goal is to offer both basic scientists and clinicians a place to share ideas and to inform them of paradigm changes and significant developments that they may not hear about anywhere else.

http://frm.cme-congresses.com/

#### Saudi Arabia Highlights of ENDO

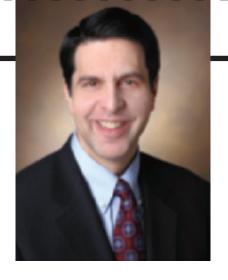
Al-Khobar, Saudi Arabia,

November 30 - December 1

Held in conjunction with the Saudi Diabetes & Endocrine Association (SDEA), this two-day intensive conference covers some of the many highlighted sessions featured at ENDO 2016 in Boston in April. Among the topics covered are diabetes, thyroid, osteoporosis and bone health, pituitary disorders, women's and men's health, and adrenal disorders. This program has been tailored specifically for practicing clinicians, clinical scientists, and early career and in-training clinicians.

www.endohighlights.com





#### It All Started with Calcium Metabolism

BY HOWARD B.A. BAUM, MD, Associate Professor of Medicine, Vanderbilt University Medical Center Division of Diabetes, Endocrinology, and Metabolism, Nashville, Tenn.

hen I applied to medical school, I thought I might be a neurologist or a pediatrician. As I moved through my clinical rotations at Johns Hopkins, however, I discovered that — at the time at least — therapeutic options in neurology were limited, and influencing the health of children often depended more on interactions with the parents rather than with the patients themselves. I just did not find

these elements appealing. As I thought back to my pre-clinical classes, I realized that I had enjoyed learning about the complex physiology of calcium metabolism, and this is what led me toward endocrinology as a specialty. I had no idea how fortunate I had been as a second-year student to have received my endocrinology lectures from people like Paul Ladenson and Mike Levine, who went on to become major leaders in the field.

In my fourth year, I signed up for an endocrine rotation and had as my first attending David Cooper, whose thyroid lectures at ENDO I never miss as he still teaches me something with every interaction. With such great role models as mentors, I went into internal medicine residency - I stayed at Hopkins - with the thought that I would subsequently pursue an endocrine fellowship.

Back when I had applied to medical school, I did so with the plan simply to be a doctor. My professors, however, slowly inculcated the notion that the only noble way to pursue a medical career was in the academic setting. In residency, the drumbeat got louder, as my chair of medicine indicated that medical practice was not even something we would be discussing as part of our career planning.

I became convinced that I needed to be an academic physician. I knew I could not be a bench scientist based on one unhappy summer in immunology research. I felt that I could be good at clinical medicine, and that I also had some organizational skills that might allow me to run a program or be an effective teacher, but there were no such jobs in academia, as the idea of the clinician educator had not

> been invented yet. Thus, I decided I would pursue the closest thing I could think of - clinical research. During my Mass General fellowship interview, I found the only faculty in all my travels — people like Bob Neer, Bill Crowley, and David Nathan - who did not look at me incredulously when I discussed a career doing patientbased research. My fellowship decision was thus easily made. I spent the last two years of my fellowship and the next three as a junior faculty member in Anne Klibanski's Neuroendocrine Unit, studying growth hormone treatment in hypopit men while that approach was still investigational.

> I was proud of the work I did and enjoyed my colleagues, but I realized that the 90% research role did not suit me. I took a private practice job in my home state of Texas and spent the next 17 years seeing

patients. I admit I was a little surprised how intellectually challenging and fulfilling this work was, and I realized that my initial goal of being a doctor was not a second-class one after all. Ironically, it was in the private practice setting that I was able to do the teaching and organizational work I had thought of as a resident. I had a volunteer academic appointment at the University of Texas Southwestern



I was a little surprised how intellectually challenging and fulfilling this work was, and I realized that my initial goal of being a doctor was not a secondclass one after all.





To celebrate 100 years of the Endocrine Society, throughout 2016 Endocrine News is running a "Why Endocrinology?" column in each issue. If you'd like to share your story with our readers, contact Mark A. Newman at mnewman@endocrine.org.

Medical Center in Dallas and interacted with fellows on a regular basis.

The Endocrine Society was eager to expand its small roster of private practitioners, so academics I had met while doing research - Janet Schlechte, David Clemmons, and Chip Ridgway — helped me get involved in committee work. The Society has been my organizational home ever since, and I truly treasure the friendships and professional associations I have derived from my involvement. In a sense, I created my own clinician educator position, and I enjoyed my multiple roles.

About four years ago, I started doing a little career exploring. I discovered, a bit late, that the job I had always thought about had been developed in academic medical centers. It turned out that Vanderbilt was looking to add a clinician educator, which was especially gratifying since the division chief, Al Powers, had been my friend since our interaction on the ENDO Task Force years before. I decided to make the leap back into academia and to move to Nashville, and the transition has been a success both professionally and geographically — we love Music City.

In my current job, I see patients, oversee a clinical trials center, teach fellows, and mentor our younger faculty. It will be a nice way to finish out a career that started with a classroom interest in calcium metabolism.

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## I don't ever tell my patients that one way is safer than the other.

I can't say that robotic is safer than a neck incision. Nor can I say that a neck incision is safer than robotic. But there is a difference in outcome, and the difference is more patient-centered in what their preference would be."

> - MICHAEL STANG, MD, associate professor of surgery at Duke University, Durham, N.C., regarding patients who need thyroid surgery, but further stresses that having a surgeon experienced with this procedure is key in "Saving Face" on page 28.

FROM THE CENTURY OF ENDOCRINOLOGY TIMELINE

1993:

**Diabetes Control and Complications Trial** (DCCT)



The Diabetes Control and Complications Trial (DCCT) was a major clinical study conducted from 1983 to 1993 and funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The study showed that keeping blood glucose levels as close to normal as possible slows the onset and progression of the eye, kidney, and nerve damage caused by diabetes.

For more about the Century of Endocrinology, go to: www.ESCentennial.org/timeline.

#### **Physician Satisfaction with Electronic Health Records (EHRs)**



Most physicians are unhappy with their EHRs and tech support, but more employed physicians are satisfied than are self-employed physicians. Only 40% of employed physicians and 31% of self-employed physicians were satisfied with their EHRs. One reason may be that hospitals and larger groups are more likely to have tech support on staff, as well as other staff members who can help out if the physician is having EHR problems.

- SOURCE: MEDSCAPE EMPLOYED DOCTORS REPORT 2016



SHUTTERSTOCK.COM/CARTOONRESOURCE

**Number of servings** of fatty fish per week needed in order for a 48% less likely incidence of diabetic retinopathy developing in type 2 diabetes patients between the ages of **55** and **80** years.

- SOURCE: JAMA OPHTHAI MOLOGY

- SOURCE: UNIVERSITY OF CALIFORNIA - SAN DIEGO HEALTH CENTER

Mortality rate due to thyroid storm. It is particularly devastating for older adults.



BY DEREK BAGLEY

## Fluoride in Drinking **Water Linked to** Type 2 Diabetes

**\**luoride in the drinking water — put there to protect from dental cavities — has been linked to type 2 diabetes (T2D), according to research recently published in the Journal of Water and Health.

The paper, authored by Kyle Fluegge, PhD, when he was a post-doctoral fellow in the Department of Epidemiology and Biostatistics at Case Western Reserve University School of Medicine, Cleveland, Ohio, points out that fluoridation with sodium fluoride could be a contributing factor to skyrocketing diabetes rates in the U.S., since the chemical is a known preservative of blood glucose. For this study, Fluegge uses mathematical models to analyze publicly available data on fluoride water levels and diabetes incidence and prevalence rates across 22 states. He adjusts for obesity and physical inactivity collected from national telephone surveys to help rule out confounding factors. Two sets of regression analyses suggested that supplemental water fluoridation was significantly associated with increases in diabetes between 2005 and 2010.

"The models look at the outcomes of [diabetes] incidence and prevalence being predicted by both natural and added fluoride," says Fluegge.

Fluegge reports that a one milligram increase in average county fluoride levels predicted a 0.17% increase in age-adjusted diabetes prevalence. Digging deeper revealed differences between the types of fluoride additives used by each region. The additives linked to diabetes in the analyses included sodium fluoride and sodium fluorosilicate. Fluorosilicic acid seemed to have an opposing effect and was associated with decreases in diabetes incidence and prevalence. Counties that relied on naturally occurring fluoride in their water and did not supplement with fluoride additives also had lower diabetes rates. The positive association between fluoridation and diabetes was discovered when Fluegge adjusted fluoride exposure levels to account for estimated per capita tap water consumption.

"The models present an interesting conclusion that the association of water fluoridation to diabetes outcomes depends on the adjusted per capita consumption of tap water," says Fluegge. "Only using the concentration [of added fluoride] does not produce a similarly robust, consistent association." For this reason, Fluegge adjusted his calculations to incorporate tap water consumption, instead of sticking to calculations that rely on "parts per million" measurements of fluoride in the water.

Findings: Fluegge used several estimations in his study, including calculations of county-level water fluoride levels; per capita county tap water consumption; and county measures of poverty, obesity, and physical inactivity. Although he doesn't suggest the study should trigger policy changes, he does indicate it should serve as a call for additional research on the important association between fluoridation and diabetes. "This is an ecological study. This means it is not appropriate to apply these findings directly to individuals," says Fluegge. "These are population-level associations being made in the context of an exploratory inquiry. And water is not the only direct source of fluoride; there are many other food sources produced with fluoridated water."

In addition to being found in food like processed beverages or produce exposed to specific pesticides, fluoride is found naturally in water in the form of calcium fluoride. Supplemental fluoride was first added to community water supplies in the 1940s. "The models indicate that natural environmental fluoride has a protective effect from diabetes," Fluegge says. "Unfortunately, natural fluoride is not universally present in the water supply."

## **Fracking Chemicals May Harm Fertility**



xposure to the chemicals — even at very low doses used in hydraulic fracturing, or fracking, may impair fertility, according to a study recently published in Endocrinology.

The researchers, led by Susan C. Nagel, PhD, of the University of Missouri in Columbia, followed up on their previous work, in which they showed that 23 of 24 commonly used fracking chemicals affected estrogen, androgen glucocorticoid, progesterone, and/or thyroid receptors in a human endometrial cancer cell reporter gene assay. They also showed that mixtures of these chemicals can behave synergistically, additively, or antagonistically on these receptors. (Endocrine News reported in-depth on the Missouri team's previous work in the April 2014 issue.)

For this study, Nagel and her team exposed pregnant female C57Bl/6 mice to a mixture of 23 commonly used unconventional oil and gas chemicals at approximately 3, 30, 300, and 3000 µg/kg per day, flutamide at 50 mg/kg per day, or a 0.2% ethanol control vehicle via their drinking water from gestational day 11 through birth. These four different concentration mixtures were designed to reflect concentrations ranging from those found in drinking water and groundwater to concentrations found in industry wastewater. "This prenatal exposure to oil and gas operation chemicals suppressed pituitary hormone concentrations across experimental groups (prolactin, LH, FSH, and others), increased body weights, altered uterine and ovary weights, increased heart weights and collagen deposition, disrupted folliculogenesis, and other adverse health effects," the authors write.

"The evidence indicates that developmental exposure to fracking and drilling chemicals may pose a threat to fertility in animals and potentially people," Nagel says. "Negative outcomes were observed even in mice exposed to the lowest dose of chemicals, which was lower than the concentrations found in groundwater at some locations with past oil and gas wastewater spills."

The mice exposed to the drilling chemicals had lower levels of key hormones related to reproductive health — prolactin, follicle stimulating hormone, and luteinizing hormone compared to the control group. Mice exposed to smaller doses of the chemicals had fewer ovarian follicles, which suggests they have a reduced number of eggs and may have a shorter fertile period than other mice. In contrast, the mice exposed to the highest chemical dose had an increase in the primary follicle number, which could signal inappropriate follicle activation and ultimate follicle death.

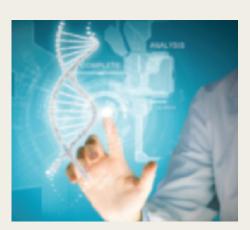
The mice exposed to the chemicals in utero also tended to weigh about 10% more at 21 days of age than mice that were not exposed to chemicals. The mice that were exposed to chemicals had increased heart weights and other indicators for abnormal thickening of the heart muscle, which were not seen in the control group.



Findings: This was the first study to describe the effects of fracking chemicals on development, identifying several adverse endpoints, and the researchers write that this work should lead to "future, more comprehensive research." They conclude that prenatal exposure to fracking chemicals at "environmentally relevant concentrations" can adversely affect reproduction and development in mice. (Male mice also experienced many of the same effects. Kassotis CD, Klemp KC, Vu DC, et al. Endocrinedisrupting activity of hydraulic fracturing chemicals and adverse health outcomes after prenatal exposure in male mice. Endocrinology)

"Female mice that were exposed to commonly used fracking chemicals in utero showed signs of reduced fertility, including alterations in the development of the ovarian follicles and pituitary and reproductive hormone concentrations," Nagel says. "These findings build on our previous research, which found exposure to the same chemicals was tied to reduced sperm counts in male mice. Our studies suggest adverse developmental and reproductive health outcomes might be expected in humans and animals exposed to chemicals in regions with oil and gas drilling activity."

### Cannabinoid **Receptor 2 Could Be Antiobesity Target**



talian researchers have found that the cannabinoid receptor 2 (CB2) could be a pharmacological target for treating or preventing obesity, according to a study recently published in The Journal of Clinical Endocrinology & Metabolism.

The researchers, led by Francesca Rossi, MD, of the Second University of Naples, point out that obesity is associated with low-grade inflammation and adipocyte (ADP) hyperplasia/hypertrophy, and also inhibits browning of adipose tissue. They also note that CB2 agonists have been shown to reduce food intake in mice. The investigators also wanted to look at a common CB2 variant, Q63R, which can reduce CB2 function and has been linked to eating disorders.

Rossi and her team evaluated the effects of the CB2 receptor as it relates to childhood obesity by analyzing the CB2-Q63R variant in 501 obese Italian children who were referred to the Department of Women, Children and General and Specialized Surgery of the Second University of Naples from January 2010 to August 2014. They also wanted to see the effects of CB2 agonist JWH-133 and the reverse agonist AM630 had on ADP activity and morphology, so they "performed molecular, biochemical and morphological studies on in vitro ADPs, differentiated from mesenchymal stem cells (MSCs) of healthy adult donors or derived from [subcutaneous] sc adipose tissue of non-obese and obese adult subjects," the authors write.

They found that the CB2 variant Q63R was significantly associated with a high BMI score and the reverse CB2 agonist AM630 increased inflammatory effects, fat storage, and reduced adipose browning. "CB2 agonist JWH-133 reversed all of the obesity-related effects," they write.

Findings: Based on these results, the researchers conclude that the CB2 receptor could be a target for reducing obesity. Since the researchers also conducted an mRNA analysis, they were able to see which genes were affected as well. They write that "these data suggest CB2 receptor may be a novel target for inducing browning, possibly through up-regulation of IL-4 and induction of [uncoupling protein] UCP-1 signaling." (1)



# Cautious

BY GLENDA FAUNTLEROY

or many decades, a diagnosis of pancreatic cancer has been associated with a dismal chance of survival. In 2008, the overall five-year relative survival rate climbed above 5% for the first time — reaching a high of 7.6%, according to SEER 9 Incidence and U.S. Mortality. The most recent SEER (Surveillance, Epidemiology, and End Results Program of the National Cancer Institute) statistics record a five-year survival rate now at 7.7%.

The chief reason for the poor prognosis is that pancreatic cancer is extremely difficult to prevent or diagnose at an early curable stage. Patients rarely show signs of the disease, and tumors of the pancreas do not display specific markers that help with detection. More than half (52%) of pancreatic cancer cases are diagnosed at the "distant" stage that denotes cancer cells have metastasized to organs nearby or into the bloodstream. Like all cancers, chances of survival increase the earlier the disease is detected and treated before it has metastasized. For pancreatic cancer patients, 9.4% are diagnosed at the local stage. These patients have a survival rate of 29.3%, SEER reports.

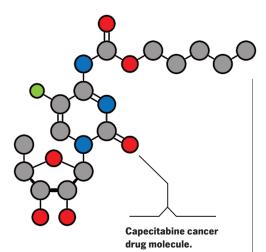
In 2013, there were an estimated 49,620 people living with pancreatic cancer in the U.S., with the number of new cases in 2016 estimated at 53,079. Those patients who are fortunate to be diagnosed early still have a tough treatment road ahead, with surgery being the only a chance

for a cure. Following the surgical removal of the cancer, patients must undergo chemotherapy with intravenous gemcitabine, which is the worldwide standard of care. It is here that a new therapy is giving both patients and treating oncologists a reason to hope.

#### A New Standard of Care?

At the American Society of Clinical Oncology (ASCO) 2016 Annual Meeting held in June in Chicago, a team of researchers presented results of the second-largest clinical trial ever conducted in pancreatic cancer. Lead investigator John P. Neoptolemos, MD, chair of surgery in the Department of Molecular and Clinical Cancer Medicine at the University of Liverpool in the United Kingdom, featured the findings of the European Study Group for Pancreatic Cancer (ESPAC)-4 that showed the combination of a second drug, capecitabine, along with gemcitabine can prolong patients' survival.

"Unfortunately, most patients are not candidates for surgery when they are diagnosed with pancreatic cancer," Neoptolemos told the ASCO audience. "These findings are significant because they show that those patients who can undergo surgery have a fighting chance of surviving this cancer with the combination of two commonly used chemotherapies."



**66** Unfortunately, most patients are not candidates for surgery when they are diagnosed with pancreatic cancer. These findings are significant because they show that those patients who can undergo surgery have a fighting chance of surviving this cancer with the combination of two commonly used chemotherapies."

JOHN P. NEOPTOLEMOS, MD, CHAIR OF SURGERY, DEPARTMENT OF MOLECULAR AND CLINICAL CANCER MEDICINE. UNIVERSITY OF LIVERPOOL. U.K. ESPAC-4 included 732 patients with pancreatic ductal adenocarcinoma who had undergone surgery. In the study conducted from 2008 to 2014, the patients were randomly assigned in the 12 weeks after surgery to six four-week cycles of intravenous gemcitabine or to the combination of gemcitabine plus oral capecitabine. Patients had a mean age of 65 years.

Patients given gemcitabine alone had a mean survival of 25.5 months. The researchers found that the patients who received the combination of gemcitabine plus capecitabine had a mean overall survival of 28 months — an increase of 2.5 months. The estimated five-year survival rates were 28.8% versus 16.3% in the two groups.

Two oncologists who specialize in pancreatic cancer say the new therapy will definitely impact how they treat their patient population.

"The results of ESPAC-4 indicate that gemcitabine with capecitabine is a new standard adjuvant regimen for patients who have undergone resection of pancreatic cancer," says Smitha Krishnamurthi, MD, associate professor in the division of Hematology and Oncology at Case Western Reserve University, Cleveland, Ohio. "The main benefit of adjuvant chemotherapy for pancreatic cancer is the increase in five-year survival, which was reported as 20.7% in the CONKO-001 study with gemcitabine, 16% with gemcitabine in the ESPAC-4 study, and 29% with gemcitabine plus capecitabine in the ESPAC-4 study." [The CONKO-001 study was conducted between 1998 and 2004 in Germany and Australia and compared the survival rates of 368 patients treated either with gemcitabine chemotherapy or observation only.]

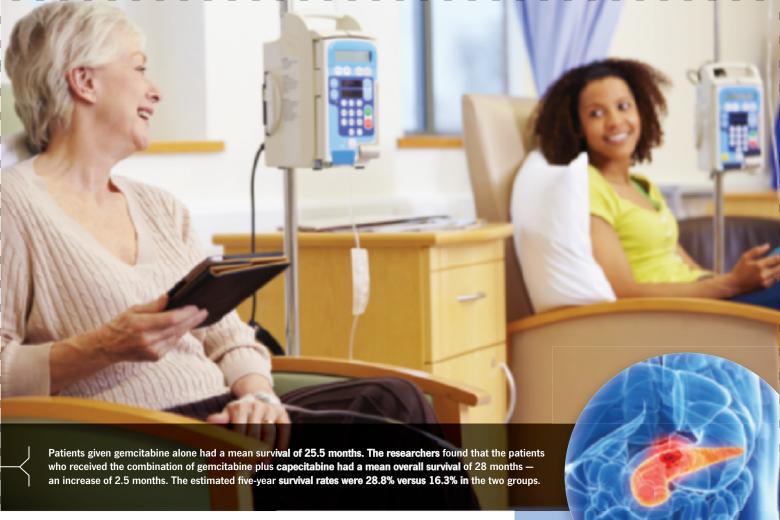
"Pre-operative chemotherapy is of interest for patients with resectable pancreatic cancer and is being evaluated in clinical trials. However, surgery followed by adjuvant chemotherapy is still the standard of care," Krishnamurthi continues.

"I am now offering gemcitabine with capecitabine as adjuvant therapy to my patients who have undergone resection of pancreatic cancer."

"After the results of the ESPAC-4 were made available, I have started to use this regimen in appropriate patients," agrees Andrea Wang-Gillam MD, PhD, associate professor and clinical director of the Gastrointestinal Oncology Program at Washington University in St. Louis, Mo. "The majority of my patients who underwent surgery are appropriate candidates for this regimen."

#### **Hurdles to Overcome**

An editorial in the July Lancet Oncology suggests now is the time for a brighter outlook for the thousands of newly diagnosed patients each year: "Although many challenges lie ahead, optimism might now start to replace pessimism that has typically been associated with pancreatic cancer."



So what are the biggest challenges still facing the medical community?

"Surgery is the only curable modality for pancreatic cancer. Unfortunately, about 80% of patients with pancreatic cancer are not surgical candidates for surgery at the time of diagnosis," says Wang-Gillam. "One of biggest challenges for the next 10 years is to develop early diagnostic biomarkers that can identify patients at the early stage of pancreatic cancer, therefore, they can be cured from disease by surgery. Given the low incidence of this disease, those early detection biomarkers have to be very sensitive and specific, which can be used as a screening tool in the high risk population."

Krishnamurthi adds that it remains to be determined whether neoadjuvant therapy will be superior to adjuvant therapy to increase the cure rate.

"Strategies to enhance the immune response against pancreatic cancer are needed and are being evaluated in clinical trials," he explains. "An effective screening test for earlier detection of pancreatic cancer is desperately needed to diagnose more patients at a curable stage."

Paramount to possibly preventing pancreatic cancer is the need for an increased understanding of how it is caused, Krishnamurthi adds.

## **GLANCE**

- In 2008, the overall fiveyear relative survival rate for pancreatic cancer climbed above 5% for the first time.
- The chief reason for the poor prognosis is that pancreatic cancer is extremely difficult to prevent or diagnose at an early curable stage.
- New research shows a combination of two chemotherapy drugs can prolong patients' survival.

# BY DEREK BAGLEY The tumor — encapsulated follicular variant of papillary thyroid carcinoma (EFVPTC) - used to be called a cancer, and patients with EFVPTC were treated as having conventional thyroid cancer (thyroidectomy and radiation).

Literal headlines were made a few months ago when an encapsulated follicular variant of papillary thyroid carcinoma was classified as a non-cancerous thyroid tumor by an international panel of experts. As the debate rages on, all agree on one thing: More studies are needed.

This renaming issue is largely an attempt to make it more apparent that this tumor is different from the classical papillary and follicular thyroid cancers, and it should be treated less aggressively.

- MICHAEL TUTTLE, MD, MEMORIAL SLOAN KETTERING MEDICAL CENTER, NEW YORK, N.Y.

n April, the Journal of the American Medical Association (JAMA) Oncology published a paper titled "Nomenclature Revision for Encapsulated Follicular Variant of Papillary Thyroid Carcinoma: A Paradigm Shift to Reduce Overtreatment of Indolent Tumors," which concluded that a certain type of thyroid tumor once classified as cancer — and treated as such — should be downgraded to non-cancerous. The panel that reached this conclusion comprised experts from seven countries — 24 pathologists, two endocrinologists, a thyroid surgeon, and a psychiatrist, writing that with this change, removing the word "cancer," patients with this tumor would be spared any unnecessary financial and psychological burden.

The tumor — encapsulated follicular variant of papillary thyroid carcinoma (EFVPTC) — used to be called a cancer, and patients with EFVPTC were frequently treated as having conventional thyroid cancer (thyroidectomy and radiation). This tumor's nucleus does resemble cancer, but since its cells are contained within the capsule, a lobectomy is usually sufficient treatment. The panel confirmed this after conducting an international, multidisciplinary, retrospective study and settled on renaming the tumor "noninvasive follicular thyroid neoplasm with papillary-like nuclear features" or NIFTP.

This new study has certainly made waves: To date, the paper has been viewed more than 130,000 times, and the New York Times published a piece covering it titled "It's Not Cancer: Doctors Reclassify a Thyroid Tumor." This makes sense; thyroid cancer rates continue to climb — the American Cancer Society estimates that there will be more than 65,000 new cases of thyroid cancer diagnosed in the U.S. this year, and the panel estimates that about 10,000 to 15,000 of these cases could be reclassified as NIFTP, potentially saving these patients from having the word "cancer" added to their medical files and the stigma of that word hanging over their heads.



aggressive counterparts. In its guidelines published in January, the American Thyroid Association (ATA) classified EFVPTC as "low risk" and recommended lobectomy as treatment, and that radioactive iodine (RAI) need not be administered.

"We didn't want to [reclassify this tumor] based on the professional opinion of experts," says Yuri E. Nikiforov, MD, PhD, vice-chair for Molecular Pathology, and director, Division of Molecular and Genomic Pathology, University of Pittsburgh, and a pathology expert and lead author of this study. "We wanted to do it based on data. We wanted to have data-driven reclassification, and therefore, we collected real cases from multiple countries around the world."

These cases were 109 patients with noninvasive EFVPTC observed for 10 to 26 years and 101 patients with invasive EFVPTC observed for one to 18 years, analyzed in order to determine the frequency of adverse outcomes in these patients. Of the 109 patients with noninvasive EFVPTC, all were alive with no trace of the tumor at a median followup of 13 years (range of 10 - 26 years). None of these patients had received radioactive iodine ablation, and 67 of them had been treated only with a lobectomy. Of the 101 patients with invasive EFVPTC, 12 had adverse events, including five patients who developed distant metastases, two of whom died.

Thyroid cancer: Microscopic image of papillary thyroid carcinoma, characterized by branching papillae with fibrovascular cores

The international panel of researchers concluded that since noninvasive EFVPTC has a very low risk of adverse outcomes, they should be reclassified from cancer to the term NIFTP. "This reclassification will affect a large population of patients worldwide and result in a significant reduction in psychological and clinical consequences associated with the diagnosis of cancer," they write.

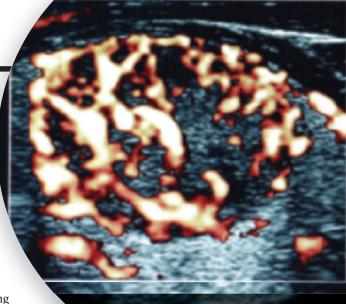
"This paper is not going to change the management according to the new guidelines," says Leonard Wartofsky, MD, MACP, of Georgetown University School of Medicine, editor-in-chief of Endocrine Reviews, and a member of the panel that set the ATA's new guidelines. "Renaming or reclassifying the tumors doesn't change the recommendation nor does it go against what are already current trends of management, which are for less surgery and less radioactive iodine."

But, the authors say, it's this new name that's reassuring to patients and clinicians, and NIFTP should imply that additional treatments and intense follow up are not necessary. Michael Tuttle, MD, of Memorial Sloan Kettering Cancer Center in New York, who was a member of both the international panel that called for reclassification of NIFTP and the ATA's guidelines panel, agrees that what's "new" here is the name, not the approach to treatment of this tumor. "Many of us for more than 10 years have treated this entity as a very low risk thyroid cancer that didn't need completion thyroidectomy or RAI ablation," he says. "But we are in the minority. Many clinicians were still giving aggressive surgery and RAI to all these lesions. So this renaming issue is largely an attempt to make it more apparent that this tumor is different from the classical papillary and follicular thyroid cancers, and it should be treated less aggressively."

Nikiforov, who was also a member of the ATA guidelines panel, sees implications beyond the clinical management of NIFTP. Patients will no longer carry the diagnosis of "cancer" for the rest of their lives, along with all of its physiological stress; they'll be able to get life insurance more easily (or not lose their life insurance policies); and they'll be able to donate blood. (Nikiforov says these are all experiences patients have shared with him.) "When patients come to see a physician to fill out their medical history," he says, "they mark 'cancer'; there is no box for 'low grade cancer' or 'good cancer' - many do not realize it unless directly affected.

"There are also pure medical consequences," he continues, "Not everybody reads guidelines and follows them, and the guidelines allow for de-intensified post-surgical treatment and less frequent follow-up, but do not prescribe it. So, unless the word 'cancer' is eliminated from the diagnosis, a significant group of patients will remain to be overtreated."

Wartofsky contends that thyroid experts in academic institutions (including members of the Endocrine Society) should already be following the management guidelines and not overtreating patients with NIFTP, but he does agree that removing the word "cancer" from these diagnoses does have other benefits for patients. He relates a story



**Thyroid Nodule (tumor)** Power doppler ultrasound

## AT A GLANCE

- An international panel of more than two dozen experts has reclassified encapsulated follicular variant of papillary thyroid carcinoma as a noncancerous thyroid tumor.
- Thyroid experts already regarded the noninvasive type of this encapsulated tumor as low risk, but the panel hopes the name change will save patients even further psychological and financial burden.
- Larger, confirmatory studies are needed, but the panel sees the study that led to the name change as a blueprint for possibly reclassifying cancerous tumors in other parts of the body.



We didn't want to [reclassify this tumor] based on the professional opinion of experts. We wanted to do it based on data. We wanted to have data-driven reclassification, and therefore, we collected real cases from multiple countries around the world."

— YURI E. NIKIFOROV, MD, PHD, VICE-CHAIR FOR MOLECULAR PATHOLOGY, AND DIRECTOR, DIVISION OF MOLECULAR AND GENOMIC PATHOLOGY UNIVERSITY OF PITTSBURGH

of a woman being held off of a heart transplant list because of her history with cancer. "So patients who are up for a kidney transplant," he says, "if they have a diagnosis of cancer, they often fall to the bottom of the list. So this could help those people out, but we're talking about rare kinds of things."

"It won't change anything I do in my practice," says Bryan R. Haugen, MD, head of the Division of Endocrinology at the University of Colorado and chair of the ATA's guidelines panel but not a member of the reclassification panel, "but [this reclassification] is a good thing for the field."

#### "TREMENDOUS UNDERTAKING"

Haugen says he sees this as a slow process, completely reclassifying these tumors as non-cancerous. For instance, he says, the pathologists who sat on this international panel are some of the world's leading experts, and it may take some time before the majority are able to differentiate between invasive and noninvasive types of encapsulated tumors. And while he calls this a "tremendous undertaking," Haugen says there will be a need for larger, confirmatory studies.

Nikiforov and Tuttle recognize that their study was relatively small, especially with the growing numbers of thyroid cancer cases, and while they agree that further and larger studies need to be done, they offer explanations as to why they only reported on 210 cases. Nikiforov points out that before this study was published, there were already 352 well-documented cases fitting the diagnosis of NIFTP reported in the literature. "[These were] summarized in the discussion of the *JAMA Oncology* paper, so with the additional 109 cases reported, we are talking now about more than 460 patients with the risk of recurrence <0.5%," he says. "The working group, and specifically 24 pathology

experts, had to review 268 thyroid cancer cases to identify this group of 109 cases [of noninvasive EFVPTC]."

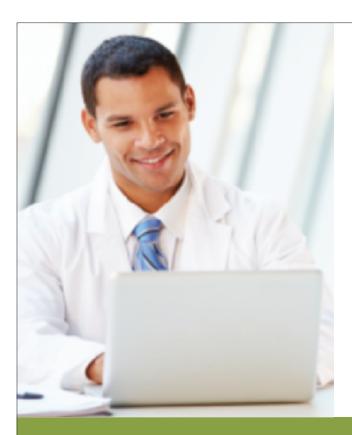
"The primary reason for the small sample size is that we have to get more than 20 pathologists to agree that all of the tumors in the study were in fact encapsulated and had no invasion," Tuttle says, "and more importantly, that we had at least 10 years of follow-up. While many more of these tumors existed years ago, without being able to very carefully re-examine the entire capsule under a microscope prevent us from including them into the study."

All agree further investigation is needed. Tuttle invites feedback on the paper from the Endocrine Society, as well as other medical societies, both pro and con, in order to encourage discussion on these findings and reach a broader consensus. In the meantime, Haugen envisions some sort of hybrid name for the tumor, since he says it resembles a follicular adenoma, a precancerous tumor, which left unchecked, could develop into follicular carcinoma.

For now, Nikiforov says that the hope for the group is that this study can be used as a blueprint or prototype for other studies looking to reclassify other indolent cancers. He's also excited at the prospect of being able to tell patients with NIFTP that they don't have cancer after all, although he says that's a complex situation, since some of these tumors cannot be re-examined, patients move away, or there may be a debate among the patient, his or her physician, and the pathologist.

Still, he knows there's work to be done. "This is just a beginning of the process of adopting this new nomenclature," Nikiforov says, "understanding better its biology and clinical implications, and getting comfortable with de-intensifying management of these patients."

BAGLEY IS THE ASSOCIATE EDITOR OF *ENDOCRINE NEWS*. HE WROTE ABOUT THE TRUTH BEHIND PRODUCTS CLAIMING TO BE BPA-FREE IN THE AUGUST ISSUE.



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THE ENDOCRINE SOCIETY IS PLEASED TO ANNOUNCE THE

## 2017 Laureate Awards Winners

FRED CONRAD KOCH LIFETIME ACHIEVEMENT AWARD
Walter L. Miller, MD

GERALD D. AURBACH AWARD FOR OUTSTANDING TRANSLATIONAL RESEARCH

Eva L. Feldman, MD, PhD

INTERNATIONAL EXCELLENCE IN ENDOCRINOLOGY AWARD
Chandrika Wijeyaratne, DM

OUTSTANDING CLINICAL INVESTIGATOR AWARD

Joel S. Finkelstein, MS, MD

OUTSTANDING CLINICAL PRACTITIONER AWARD
Daniel Einhorn, FACE, FACP, MD

OUTSTANDING EDUCATOR AWARD
Laurence Katznelson, MD

OUTSTANDING INNOVATION AWARD
Matthias Tschöp, MD

**OUTSTANDING LEADERSHIP IN ENDOCRINOLOGY AWARD** 

Teresa K. Woodruff, PhD

**OUTSTANDING MENTOR AWARD** 

Margaret E. Wierman, MD

OUTSTANDING PUBLIC SERVICE AWARD

Larry D. Bowers, PhD  $\,$ 

**OUTSTANDING SCHOLARLY PHYSICIAN AWARD** 

Rebecca S. Bahn, MD, FRCPI

RICHARD E. WEITZMAN OUTSTANDING EARLY CAREER INVESTIGATOR AWARD

Nima Sharifi, MD

ROY O. GREEP AWARD FOR OUTSTANDING RESEARCH
Klaus H. Kaestner, PhD

SIDNEY H. INGBAR AWARD FOR DISTINGUISHED SERVICE

Janet E. Hall, MSc, MD

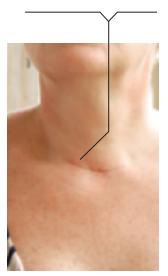
Awards will be presented at ENDO 2017: The 99th Annual Meeting & Expo in Orlando, FL, April 1-4, 2017.







For many women who have had thyroidectomies, the scar on the neck is still visible. It can be a daily reminder that some are just not comfortable seeing in the mirror.

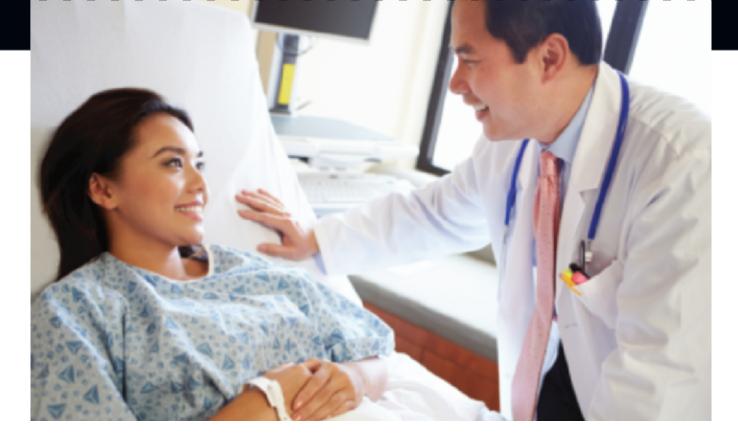


hen a 43-year-old Florida woman needed thyroid surgery, she consulted several surgeons in several states in her search for her best option. She traveled to North Carolina to have a robotic transaxillary thyroidectomy at Duke Medicine — so she could avoid having a scar on her neck.

There are several versions of robotic thyroidectomy, but transaxillary is the most common in the U.S., in which the surgeon makes an incision in the armpit and operates miniature instruments through remote control. Although it is still rare — there have been only about 1,000 so far in the U.S. — it has a following among a group of patients and surgeons who find it very appealing. In February, the American Thyroid Association (ATA) published an official statement that concludes: "Remote-access thyroidectomy has a role in a small group of patients who fit strict selection criteria. These approaches require an additional level of expertise, and therefore should be done by surgeons performing a high volume of thyroid and robotic surgery."

#### **High Volume Lowers Complication Rate**

According to the surgeon who treated the Florida patient, Michael Stang, MD, patients would benefit if more thyroid surgery were performed by experienced surgeons: "Most thyroid surgery in the U.S. is done by surgeons who only do a couple of thyroid surgeries a year. Nationally, the complication rates vary from 1% to 10%, which is far too high. The more thyroid surgeries you do, the better the outcomes are. For a high-volume surgeon, the complication rates are usually right at or below 1%. We can reduce the number of complications by making sure people who are having thyroid surgery are having it done by surgeons who do a whole lot of it."



I don't ever tell
my patients that one
way is safer than
the other. I can't say
that robotic is safer
than a neck incision.
Nor can I say that a
neck incision is safer
than robotic. But
there is a difference
in outcome, and the
difference is more
patient-centered in
what their preference
would be."

 MICHAEL STANG, MD, ASSOCIATE PROFESSOR OF SURGERY, DUKE UNIVERSITY, DURHAM, N.C. In the right hands, remote access and conventional surgery have comparable complication rates, says Stang, who is an associate professor of surgery at Duke University, Durham, N.C.

"I don't ever tell my patients that one way is safer than the other. I can't say that robotic is safer than a neck incision. Nor can I say that a neck incision is safer than robotic. But there is a difference in outcome, and the difference is more patient-centered in what their preference would be," Stang says.

#### **Pioneered in South Korea**

The surgery was pioneered in South Korea by Woong Youn Chung, MD, PhD, of Yonsei University, and there are reasons that it started there, Stang says. First, there are many more thyroid surgeries done there because in South Korea thyroid screening is done at the same time as breast cancer screening, so they find more thyroid problems. Second, the culture places a high value on avoiding a scarred or blemished neck, especially among relatively young women, so more patients are interested in such a procedure.

Stang trained with Chung, as did Renu Sinha, MD, an endocrine surgeon at Inland Surgical Associates in Spokane, Wash. Sinha says that Intuitive Surgical, manufacturer of the da Vinci Surgical System used in the technique, trained only about 50 U.S. surgeons, all of them high volume. Then in 2011, the company notified surgeons that there was no specific Food and Drug Administration approval for the use of the system for thyroidectomies, so the company would not be supporting the use. That put the surgery off-label, which dampened many surgeons' enthusiasm for it, but others recognized that "it is not unusual to prescribe drugs or perform procedures in medicine that are considered off-label that provide patient benefits," Sinha says.

#### Strict Selection Criteria

The ATA statement lays out clear patient selection criteria: The patient should be thin enough for easy access without interference from scar tissue from previous shoulder or neck surgery. The tumor should be less than 3 cm, with no thyroiditis, and the thyroid should not be larger than 5 or 6 cm. Contraindications include thyroid cancer with extension to lymph nodes, Graves' disease, and substernal disease.

"The patients who are candidates are about 5% of the clinical volume in an academic setting, where we see more complicated patients," says Eren Berber, MD, who is a professor of surgery and director of robotic endocrine surgery at the Cleveland Clinic. "Whereas if you go to a community setting, the percentage increases to maybe 20% to 25% of patients." Berber and Stang both contributed to the ATA statement.

Sinha says that there are possible complications in the robotic approach that aren't associated with conventional thyroidectomy — including chest wall numbness and brachial plexus injury — that require additional attention to avoid.

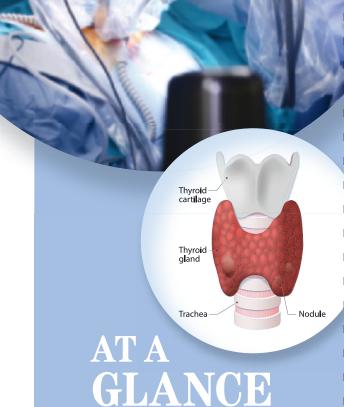
#### Cost Issues

Another hurdle to the surgery is cost, which Sinha says is "probably \$3,000 or \$4,000 more for the hospital than standard thyroidectomy, although the charge to the patient is the same regardless of approach," so institutions have to be supportive of the effort. It involves longer operation times, even though the selection criteria mean it is reserved for simpler cases. Berber says that at the Cleveland Clinic, patients are charged the same for robotic and conventional surgery. And Stang adds that a high-volume surgeon's skill can bend the cost curve downward. In South Korea, reimbursement for robotic thyroidectomy is four times more than for conventional surgery.

#### The Patient's Choice

"It comes down to a personal choice," Stang says. Thyroid nodules and thyroid cancer are three times more common in females than males, and almost all of the patients who choose this surgery are females. Of the 350 procedures Stang has performed, only two have involved men.

One of Sinha's patients, who was 34 at the time of the operation, says she chose the procedure because she knows from experience that her scars don't



- Remote-access thyroid surgery can avoid leaving a scar on the patient's neck.
- When an experienced surgeon applies strict patient selection criteria, robotic surgery's complication rates appear to be on a par with those of conventional surgery.
- Some patients value the benefits enough to travel great distances to find a surgeon.



get purplish and stay dark. On some people, they tend to become this silvery white and fade away, but on me it has never been that way. I have scars that have been red for years and never faded to a light white color."

Stang's patient from Florida said that she was also drawn by the lack of a visible scar and called the choice a "nobrainer." She made that decision despite the fact that cytological analysis of a specimen from her nodule obtained by fine needle aspiration indicated her cancer risk was approximately 40%, so she could face additional surgery later. She traveled to Duke, where Stang examined her and reviewed her test results. He removed half her thyroid the next day, and the patient flew home the day after that. The pathology analysis revealed a benign nodule requiring no

"There is a subgroup of patients who have concerns about their cosmetic incision, and also patients who have bad wound healing problems, so these patients need some alternative way of hiding the scar somewhere else in their body," Berber says. "They would otherwise not be happy with their operation, and you give them an option where they get a lot of satisfaction." A third of his patients come from out of state, and some from as far away as the Middle East, for the procedure.

"Some women don't mind having traditional surgery with a scar on their neck. For others, it is a bigger concern, and they are the ones who seek out the robotic technique," Stang says.



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BY KELLY HORVATH

# PERVASIVE Threat

A new study presented at ENDO 2016 revealed a possible link between bisphenol A exposure in utero to breast cancer later in life. In the process, the researchers created a new bioassay that can test chemicals much faster than typical animal studies.

## Almost every single person alive today has detectable amounts of endocrine-disrupting chemicals (EDCs) in his or her body,

according to the 2015 joint Endocrine Society/IPEN publication Introduction to Endocrine Disrupting Chemicals (EDCs): A Guide for Public Interest Organizations and Policy-Makers.



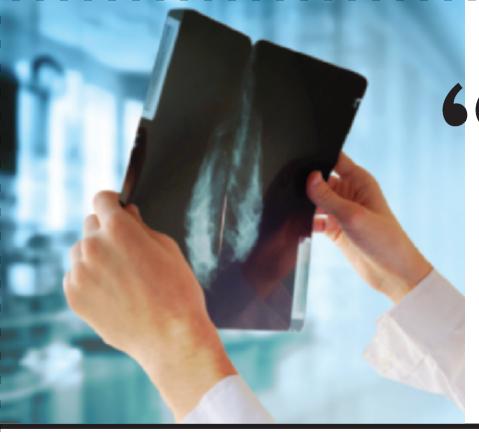
hese EDCs — phthalates (plasticizers), bisphenol A (BPA), polychlorinated biphenyls (PCBs), and others — are hormone-like industrial chemicals that did not even exist 100 or so years ago. Studies on human populations consistently demonstrate associations between the presence of certain chemicals and higher risks of endocrine disorders such as impaired fertility, diabetes, obesity, cardiovascular disorders, and cancer.

#### **UBIQUITOUS BPA**

The xenoestrogen BPA is especially prevalent as a component used in rigid plastic products such as compact discs, food and beverage containers, food and formula can linings, and glossy paper receipts. In the case of food containers, when they are heated or scratched, the BPA can seep out into the food and then be ingested. BPA also escapes from water pipes, dental materials, cosmetics, and household products among others and is released into the environment or directly consumed. According to research, such exposures help account for why BPA has been found in the urine of a representative sample of 95% of the U.S. population.

As the now-familiar "developmental origin of health and disease" hypothesis, which posits that a poor start to life during gestation can lead to disease in adulthood, would suggest, even low doses of chemicals that interfere with hormone actions are particularly detrimental when exposures happen during development. Researchers have long suspected that EDC exposures can be especially problematic for females, impairing reproductive functions throughout their lives as well as being associated with increasing rates of the reproductive cancers — breast, ovarian, and endometrial cancers.

Notably, BPA can cross the placenta in the womb, indirectly exposing the fetus — it has been found in both maternal and fetal serum as well as neonatal placental tissue. Newborns can also be directly exposed through breastfeeding.



We found that BPA acts directly on the mammary gland and that this effect is dose dependent: A low dose significantly increased ductal growth, whereas a high dose decreased it."

> LUCIA SPERONI, PHD, RESEARCH ASSOCIATE, SOTO-SONNENSCHEIN LAB, TUFTS UNIVERSITY SCHOOL OF MEDICINE, BOSTON

#### DIRECT EFFECTS

The results of a study presented at ENDO 2016 provide compelling support for the idea that fetal exposure to BPA might increase risk for development of breast cancer in adulthood; in fact, it may explain why overall incidence increased in the 20th century. Lucia Speroni, PhD, a research associate and member of the Soto-Sonnenschein Lab at Tufts University School of Medicine in Boston, Mass., and the study's lead investigator, reports, "We found that BPA acts directly on the mammary gland and that this effect is dose dependent: A low dose significantly increased ductal growth, whereas a high dose decreased it."

Because BPA is a ligand for several hormone receptors and acts on multiple organs, the researchers sought to develop an in vitro bioassay that could determine whether BPA acts directly on the fetal mammary gland. "This represents a novel approach to study the effects of hormones and hormonally active chemicals on the developing fetal mammary tissue outside the organism," Speroni says. For the bioassay, mouse mammary buds were extracted at Day 14 of development and grown in culture for five days, after which, the explants were exposed to BPA. Changes in the growth of the mammary gland were then recorded and compared to controls, rapid results that were available in less than a week.

"Because these effects are similar to those found when exposing the fetus through its mother, our experiment suggests that BPA acts directly on the fetal mammary gland, causing changes to the tissue that have been associated with a higher predisposition to breast cancer later in life," Speroni explains. In replicating the process of mammary gland development in vitro, this method additionally allows for live observation throughout the whole process. "By having the organ growing in a dish," Speroni says, "we are now able to observe how the mammary gland develops in real time, something that was impossible to do using live animals. The culture model will help us answer questions that could not be addressed until now for lack of appropriate culture systems, such as elucidating the mechanism of action of BPA on the mammary gland."

#### A BUDDING BIOASSAY

The lab team had previously shown that the most harmful time for exposure to BPA is during fetal development by causing alterations in the developing mammary gland. "Thus, there is a clear need to improve the process of identification of chemicals that, by affecting organ development, may increase the risk of developing cancer in adulthood," Speroni says.



Current methods can detect hormonal activity (i.e., whether a certain compound could be mistaken by our bodies for a hormone) only in regards to cell proliferation or death, lacking a tissue-dependent context — they cannot show that a chemical has changed the development of an organ.

"In an ideal world, the precautionary principle would be used, and chemicals with estrogenic activity would be considered potential breast carcinogens, based on the results obtained in rats and mice exposed to diethylstilbestrol and BPA," Speroni says. "However, regulatory action requires extensive long and costly animal studies. In vitro assays could expedite the process and allow researchers, regulatory agencies, and industries to test various hormone-mimicking compounds when determining their likelihood to contribute to breast cancer."

Because results are available in such a short period of time, the bioassay could also be used to screen a large number of chemicals of interest for their mammary gland toxicity.

In the meantime, women may choose to limit their exposure to chemicals that act like estrogen and thereby increase their risk of hormone receptor–positive breast cancer.

# AT A GLANCE

- A novel ex vivo bioassay demonstrated that bisphenol A acts directly on the mammary gland in a dose-dependent manner.
- The new bioassay will allow researchers to explore the mechanisms responsible for the adverse effects of endocrinedisrupting chemicals.
- Because it is ex vivo, the new bioassay can rapidly (five days) test chemicals, much faster than what animal studies allow.

## **Show Me** the MONEY



Before any scientist can dive into his or her research, there must be funding.

Most of the time that funding comes from a variety of grants. *Endocrine News* offers up these 11 tips to help you get your endocrine research off the ground.

ypotheses are free, but successful grant applications require finesse, determination, and a whole lot of paperwork. Resources have never been easy to come by in the scientific world, and there is an art to crafting an effective grant proposal that is not always taught in school.

With funding at about 10% for U.S. grant programs, the process is as competitive as ever — inspiring this list of 11 rules to improve your chances of winning grants for research projects.

#### **Know your audience**

When writing a grant proposal, your audience is the review panel. These individuals face piles of applications, so you want to make their job as easy as possible. Keep in mind the qualities that will appeal to them, such as concision and clarity. You will also need to convey why the project is important and why you are the right person to conduct it.

One way to gain insight into the way reviewers evaluate proposals is to join review panels early in your career. By putting yourself in a judge's shoes, you will better understand the criteria that are used to select grantees and the discussions that come up during panels.

#### Focus on specific aims

For grant applications to the National Institutes of Health (NIH), many say that the most important section is "Specific Aims." The structure of a proposal may vary by institution, but the NIH is often seen as a standard-bearer and is substantially similar to the application templates of other granting organizations. The Aims portion sums up all the critical points of the proposal in a few paragraphs.

A strong Specific Aims section will begin with a compelling lead sentence, or "hook," followed by a quick description of what is known about the issue, where the knowledge gap is, and why it's critical to address. The second paragraph should cover the applicant's qualifications and the hypothesis for solving the problem. The third will include the actual Aims — a list of a few objectives and the final paragraph will quickly summarize the innovative aspects of the project.



#### **Balance novelty and practicality**

Every researcher needs to find a unique niche, one that they feel passionate about and that fits within their areas of expertise. Grant writing is a chance to define your approach and share the innovative contributions that you intend to make to science. If you're not excited about the idea you're proposing, then it probably will not succeed. Make sure to underline the novel aspects of your project, but also clearly define the supporting evidence. Too much conjecture will give pause to review panels.

## **FREQUENT MISSTEPS** in **GRANT APPLICATIONS**

The five review criteria for most NIH grant applications are: "significance, approach, innovation, investigator, and environment." Courtesy of the National Institute of Neurological Disorders and Stroke, here are the most common mistakes that researchers make in their proposals.

#### **Problems with significance:**

- Not significant nor exciting nor new research
- Lack of compelling rationale
- Incremental and low-impact research

#### **Problems with specific aims:**

- Too ambitious; too much work proposed
- Unfocused aims; unclear goals
- Limited aims and uncertain future directions

#### **Problems with experimental approach:**

- Inappropriate level of experimental detail
- Feasibility of each aim not shown
- Little or no expertise with approach
- Lack of appropriate controls
- Not directly testing hypothesis
- Correlative or descriptive data
- Experiments not directed toward mechanisms
- No discussion of alternative models or hypotheses
- No discussion of potential pitfalls
- No discussion of interpretation of data

#### **Problems with investigator:**

- No demonstration of expertise or publications in approaches
- Low productivity; few recent papers
- No collaborators recruited or no letters from collaborators

#### **Problems with environment:**

Inadequate institutional support

Source: http://www.ninds.nih.gov/funding/ grantwriting\_mistakes.htm

**Emphasize the impact** 

On top of offering a fresh approach, a winning proposal will reinforce the compelling reasons why a study needs to occur. Throughout the Specific Aims and other appropriate sections of the application, expected outcomes should be clearly defined. Give serious, critical thought to the ways that your project will have a favorable and measurable impact on science. How will it expand knowledge and potentially lead to clinical application?

**Triple check guidelines** 

One small misstep, like a forgotten requirement, can derail the chances of an entire application. When programs are looking to quickly whittle down the applicant pool, applicants that fail to follow guidelines are often the first to be thrown out. This includes the extensive lists of supporting materials, such as citations. If it does slip through and gets to the panel, missing pieces will likely irritate reviewers and hurt scores, no matter the quality of the science itself. Formatting and length restrictions are two areas where applications often fail to adhere to rules.

#### Give yourself enough time

Grant applications generally require at least three drafts before they are ready for submission. The author should reserve time for peer feedback and try to find colleagues that will closely represent the review panel. After making edits informed by the suggestions of fellow scientists, the applicant will likely need a bit of space from the project to come back to it with fresh eyes in a few days or weeks and make final adjustments.

#### **Outline expenses**

A detailed budget will bolster your chances of receiving the funding your project requires. Every item needs to be justified and realistic — pricy and unusual requests must be supported by research needs. The NIH says that an ideal budget falls into the "Goldilocks zone," meaning not too big, not too small, but just right. A well-formulated budget shows that you understand what's required to complete a project. It won't be used to score scientific merit, but it will influence the ultimate selection of winners.

#### **Construct a team**

The credentials of the people behind a project play a key role in its evaluation. Ideally, the team represents all the necessary pieces of expertise to complete the project and comes with a support staff capable of technical processes described. Personnel should account for about 80% of your budget, according to the NIH, and it is worth investing in the right individuals for the job. (Note: You will want to establish order of authorship and ownership of data from the outset to avoid confusion or conflict down the line.)

#### **Avoid excessive jargon**

Readability should not be underestimated. Dense and poorly written grants are unappealing to reviewers, causing their minds to wander and critical points to be missed. Organization is an essential part of this, and the use of headers, visuals, and labels will make your application user-friendlier for readers. Be sure to proofread, and consider paying a technical editor to help, especially if submitting a proposal that is not written in your first language.

#### Stick to essential information

Reviewers also appreciate applications that stick to necessary information. Superfluous background and run-on sentences only distract from the core components of the proposal. It is fine to use humor and anecdotes to strategically support your argument, but try to be concise and stay on topic.

#### Try, try again

Failure is part of the grant application process, so scientists need to respond to rejection in a productive way. If a review panel asks for resubmission, take their feedback under thoughtful consideration and use it to improve your application for the next go-around. Document the changes that you make, which will demonstrate growth and comprehension.

These tips are not revolutionary; they summarize the recommendations of grant-awarding institutions like the NIH and experienced scientists. As researchers progress in their careers, the rules listed here can operate as a handy reference for securing funding in a competitive environment.

MAPES IS A FREELANCE WRITER BASED IN WASHINGTON, D.C., AND A REGULAR CONTRIBUTOR TO ENDOCRINE NEWS. SHE WROTE ABOUT THE STRUGGLES OF RESEARCHERS DEALING WITH TOO MUCH DATA IN THE SEPTEMBER "LABORATORY NOTES.



### Diana W. Bianchi, MD, Appointed NICHD Director

ational Institutes of Health (NIH) director Frances Collins, MD, PhD has announced the selection of Diana W. Bianchi, MD, as director of the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD).

Bianchi comes to the NIH from the Floating Hospital for Children and Tufts Medical Center in Boston where she served as the founding executive director of the Mother Infant Research Institute and vice chair for Pediatric Research. As NICHD director, Bianchi will oversee an institute with an annual budget of approximately \$1.3 billion and a research portfolio that includes pediatric health and development, maternal health, medical rehabilitation, population dynamics, reproductive health, and intellectual and developmental disabilities. The NICHD provides over \$50 million to Endocrine Society members to conduct endocrine research. Bianchi is expected to join the NIH later this month.



## **FDA Bans EDCs from Antibacterial** Soaps

n September 2, the Food and Drug Administration (FDA) issued a final rule on the safety and effectiveness of antibacterial soaps. The rule states that active ingredients in over-thecounter consumer antiseptic washes "are not generally recognized as safe and effective (GRAS/GRAE) and are misbranded." The endocrine-disrupting chemicals (EDCs) triclosan and triclocarban were among the 19 ingredients that are banned by the final rule, effective September 6, 2017.

The FDA noted that there is no scientific evidence supporting the hypothesis that the chemicals used in antibacterial soaps are more effective than regular soap and water. Consistent with the Endocrine Society's longstanding position on EDCs and our comments to the FDA, the FDA noted that triclosan and triclocarban could pose health risks, including hormonal effects. Many of the potential health effects of triclosan were summarized in the Endocrine Society's Scientific Statement on EDCs.

The Endocrine Society applauds the FDA's decision on antibacterial soaps, and we appreciate the agency's recognition that the chemicals used in these products "may do more harm than good over the long term." We will continue to work with the FDA on reducing the risks of harms due to exposure to EDCs in consumer products, such as personal care products.

### Take Action Today to Support the NIH

s this issue of Endocrine News was going to press, lawmakers in Washington, D.C., faced an October 1 deadline to pass a funding bill to avoid a government shutdown. Recent discussions among congressional leaders indicated a likelihood that Congress would pass a shortterm continuing resolution (CR) to fund the government at current levels through December 9, if negotiations could reach a compromise over funding for Zika and Planned Parenthood. This is a positive development for the biomedical community as a short-term CR means that Congress could still pass an appropriations bill that includes a \$2 billion increase for the National Institutes of Health (NIH) before the end of this year. Under a long-term CR, the NIH will not fund new projects and likely will not release the full amount of awarded grant funds.

All Endocrine Society members are strongly encouraged to participate in our online advocacy campaign at www.endocrine.org/advocacy to urge Congress to pass an omnibus spending bill, including an increase for the NIH by the end of this year. Taking action is quick and easy. Once you access the campaign, a pre-written letter will be provided for you. You will only need to either enter your email and member ID, OR enter your address information so that the system will send your message to the correct recipients.

## **Endocrine Society's Centennial** Recognized by U.S. Senate

s the Endocrine Society continues to celebrate its accomplishments over the past century, the Senate recognized the Society's contributions with a floor statement by Senator Edward Markey (D-MA). Senator Markey noted his appreciation of the accomplishments of endocrinologists and endocrine researchers that have led to women and men living longer, healthier lives.



## Congressional Record

proceedings and debates of the  $114^{tb}$  congress, second session

WASHINGTON, THURSDAY, SEPTEMBER 8, 2016

Vol. 162

#### Senate

#### ENDOCRINE SOCIETY CENTENNIAL ANNIVERSARY

Mr. MARKEY. Mr. President, today I wish to recognize and congratulate the Endocrine Society in honor of its Centennial anniversary this year.

Founded in 1916, the Endocrine Society is  $the world's \, oldest \, and \, largest \, professional \, society$ for endocrinologists and endocrine scientists, who focus their efforts on understanding and caring for the large interconnected system of glands in our bodies that produce hormones needed for the daily function of our bodies. These physicians and researchers are at the core of solving the most pressinghealth problems of our time-from diabetes and obesity, to infertility, bone health, and hormone-related cancers.

Throughout this year, the Endocrine Society is celebrating its 100th anniversary by focusing on endocrinology's past contributions to science and public health, while keeping an eye on today's promising research, which will lead to the discoveries of tomorrow. I am very pleased that this included holding its annual meeting and expo in Boston which drew thousands of endocrinologists from around the globe to Massachusetts. I am also pleased to note that this year the president of the Endocrine Society is Dr. Henry Kronenberg, chief of the endocrine unit at Massachusetts General Hospital, and Professor of Medicine at Harvard Medical School in Boston, MA

Over the Endocrine Society's past 100 years, there have been remarkable discoveries and advances in biomedical research, but there is still much to learn. Thankfully, advances in endocrine research are accelerating. Today, thanks in part to funding from the National Institutes of Health, we have many doctors and scientists working to create fascinating tools to improve human health.

As one example, the bionic pancreas, developed by Dr. Ed Damiano, a professor of biomedical engineering at Boston University, completely automates the process of tracking and adjusting blood sugar. This device does not cure diabetes, but it battles its greatest threat: the dramatic fluctuations in blood sugar that cause significant side effects and even death.

Iam truly appreciative of the accomplishments of endocrinologists and endocrine researchersmany who work, study, and practice in Massachusetts--over the past 100 years, and 1 am excited about the future of this field and better understanding how our environment impacts the way in which our hormones function and contribute to disease.

I offer sincere congratulations to the Endocrine Society on their 100th anniversary, and I look forward to seeing future advancements in the field that lead to women and men living longer, healthier lives.

### **Endocrine Society Advocacy Delays** MACRA Payment **Penalties**

n September 8, acting administrator of the Centers for Medicare and Medicaid Services (CMS) Andy Slavitt announced that the final Medicare Access and Chip Reauthorization Act (MACRA) regulation will exempt clinicians and other healthcare providers from any risk of penalties in their 2019 payments if they choose one of three reporting models for the Merit-based Payment Incentive Program (MIPS) in 2017.

- Full-year reporting that begins on January 1;
- Partial-year reporting for a reduced number of days; and
- A "test" option under which physicians can report minimal amounts of data.

Those who choose to report for the full year or partial year may be eligible for bonus payments of a "modest" or "small" amount in 2019; clinicians and other providers who choose any of the three reporting options will not be subject to payment adjustments. Qualified participants in advanced alternative payment models will still be eligible for the 5% payment incentive in 2019.

This is a significant improvement to the proposed rollout of the new payment system that was a direct result of ongoing advocacy efforts by the Endocrine Society, the American Medical Association, other clinician organizations, and clinicians and other providers across the country. A delay in the reporting period was the top priority in our June 26 comments on the MACRA proposed rule and subsequent advocacy.

We applaud the administration for listening to our concerns and look forward to continued collaboration as MACRA is implemented.

## THYROID CANCER WHAT YOU NEED TO KNOW

Thyroid cancer is the most common form of cancer in the endocrine system, which includes the glands that produce hormones in your body. Cancer occurs when lumps, or nodules, grow in the thyroid gland. These nodules are not usually cancerous, but if they are, they can be treated effectively. Rarely, they can be life threatening.

Visit hormone.org for more information.



The thyroid gland is a butterfly shaped gland at the front of the neck. It uses iodine, a mineral found in some foods and in iodized salt, to make hormones that help your body. The thyroid hormones control your metabolism and affect your weight and your brain function as well as maintaining your heart, skin, hair, and intestines.



#### THYROID NODULES

#### — CELLS IN THE THYROID THAT FORM A TUMOR

- More than 90% are not harmful, but some can be cancerous.
- Fewer than 1 in 10 nodules is cancerous
- · Signs of thyroid cancer include a swelling or lump in the neck
- Your doctor can detect nodules with a "neck check." Cancer is confirmed with a fine needle biopsy or by testing a nodule removed by surgery.



#### THYROID CANCER DOESN'T ALWAYS HAVE SYMPTOMS

See your doctor if you notice:

- a lump or swelling in your neck
- a hoarse voice
- difficulty swallowing
- neck or throat pain
- a swollen lymph node in your neck





#### **CANCER DIAGNOSIS**

Tests that examine the thyroid, neck, and blood are used to detect (find) and diagnose thyroid cancer.

#### TYPES OF THYROID CANCERS

- Papillary: the most common (80% of cases); slow growing; may develop in one or both lobes of the thyroid gland; and may spread to lymph nodes in the neck.
- Follicular: the 2nd most common; found more in countries with lack of iodine; grows slowly and is highly treatable.
- Medullary: less common; more likely to run in families; more likely to spread to lymph nodes and other organs.
- Anaplastic: very rare and very aggressive; quickly spreads to other parts of the neck and body.

## THYROID CANCER IS THE #1 FASTEST GROWING CANCER IN THE U.S.

(IN BOTH MEN AND WOMEN)

New cases per year: 62,450



Women 47,230



Men 15,220

Occurs nearly 3 times more often in women than in men. Can occur at any age (including in children). Seen most often in women in their 40s and 50s and men in their 60s and 70s.

2 out of 3 cases occur in people younger than age 55.

...Age, gender, and exposure to radiation can affect the risk.



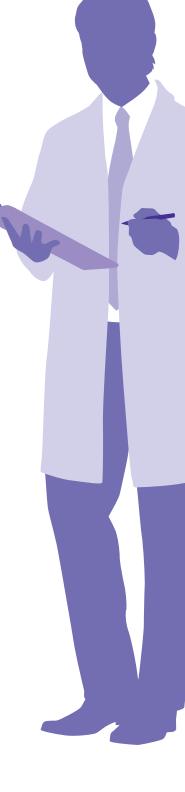
## YOU ARE AT GREATER RISK IF YOU:

- Are between ages 25 and 65
- Are a woman
- Are Caucasian
- Have a family member who has had thyroid disease
- Have had exposure to radiation from a nuclear reactor accident, especially as a child.



Doctors remove the thyroid gland and the nodules within it with a surgical operation. Your doctor may also provide a one-time treatment with a radioactive iodine pill that you swallow. This is a single dose and not like radiation used in other cancers. You will need to be on thyroid hormone therapy for the rest of your life. If your cancer is quite advanced (less than 5% of patients), your doctor may provide chemo therapy.

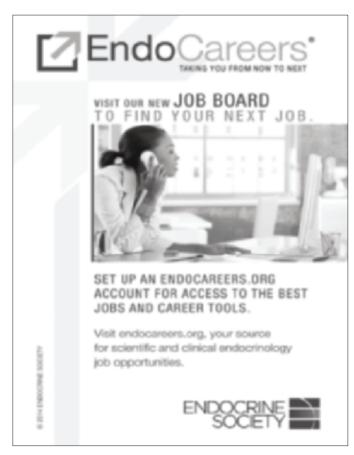
With any cancer diagnosis, look to your family, friends, and healthcare providers for more support.

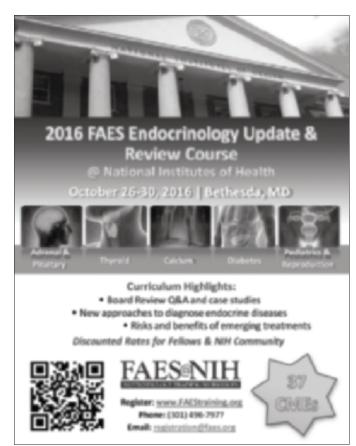


### Patients have questions. We have answers.

The Hormone Health Network is your trusted source for endocrine patient education. Our free, online resources are available at hormone.org.

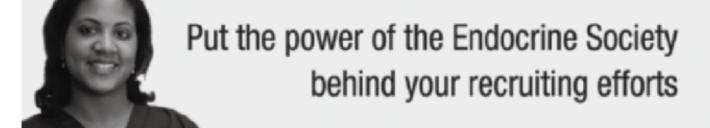














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