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Endocrine news

INTERNATIONAL

NECK & NECK: Debating Thyroid Patient Care

From a cutting-edge new study on thyroid cancer to differing opinions on the use of imaging, we focus on varying approaches to patient care:

- Two pediatric endocrinologists debate the merits of routine imaging for infants with congenital hypothyroidism.
- A look at a recent *Endocrine Reviews* article that delves into the controversies surrounding the treatment of low-risk differentiated thyroid cancer.

3D PRINTING:

Will this new technology impact your lab?

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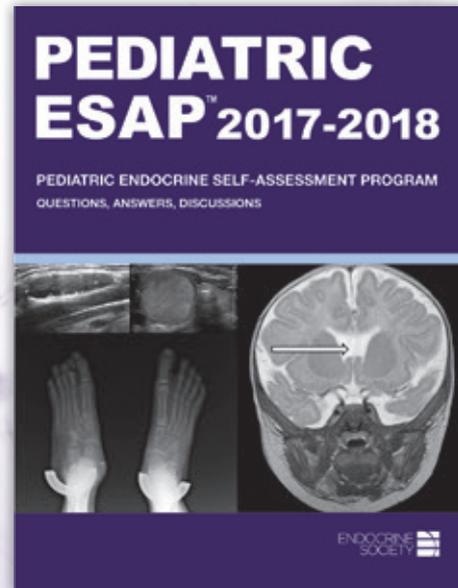
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BY DEREK BAGLEY



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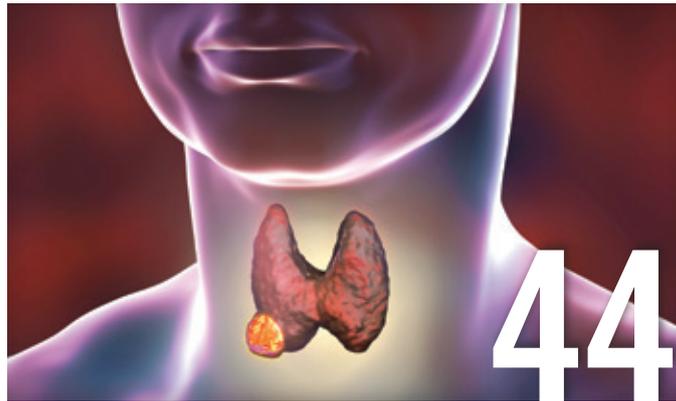
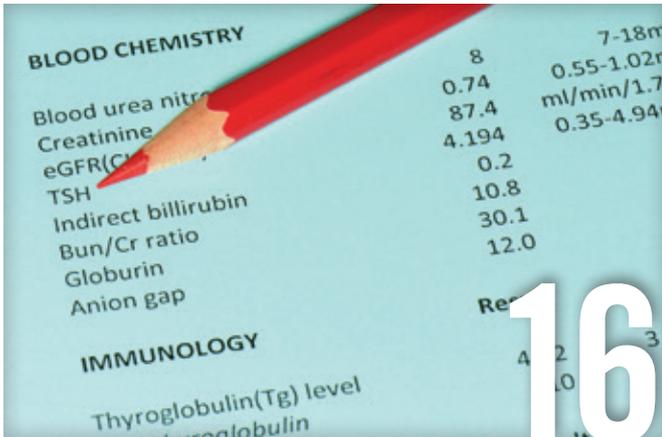
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Hormone Science to Health



The Society's New Strategic Plan is a Beacon to a Brighter Future

I'VE HAD THE GREAT FORTUNE TO BE YOUR president at an exciting time. Our membership is growing, our global influence on healthcare policy is expanding, and our journals are thriving. I've also had the opportunity to meet many of you as I represented our Society at our events and other international meetings. Yet one of the most exciting honors I've had is to lead the development of our next strategic plan.

For those of you not familiar with strategic plans, they serve as beacons for organizations like ours. They are more than goals and objectives; strategic plans define how organizations see the future of their field and their members. Our organizational beacon is extremely bright and is captured by the vibrancy of our refreshed mission and vision and establishment of core values. I'm excited to share them with you now:

Mission: We unite, lead, and grow the endocrine community to accelerate scientific breakthroughs and improve health worldwide.

Vision: We envision a world in which advances in endocrine science, education, and care promote optimal health and well-being.

Core Values: Our core values shape our approach to our work. They embody how we serve our members, foster community within the field, and frame discussions that advance science, medicine, and policy.

- **Innovation:** We promote breakthroughs in scientific discovery and care through collaboration and bold ideas.
- **Excellence:** We aspire to the highest standard of scientific rigor, integrity, data-driven decision making, and clinical care.

- **Stewardship:** We commit to nurturing every member and ensuring the long-term growth of the field.
- **Community:** We embrace inclusiveness and respectful interactions throughout our diverse and global community.

As you can see from the mission, vision, and core values, our new strategic plan is focused on the significant impact that all our members play in global research and healthcare. Our language choices were intentional, with the goal of inspiring our members, being an inclusive and welcoming society for multidisciplinary research and clinical teams, and elevating the gravitas and prominence of endocrine research and practice.

“
Our membership is growing, our global influence on healthcare policy is expanding, and our journals are thriving.
”

During development of the strategic plan, the Council, invited guests, and the SP4 Task Force considered what initiatives would move us to realize the full implications of the plan. Four priority areas emerged from these discussions (as shown in the box on the next page).

Our Council approved this plan last month and now the real work begins.

I am working together with our future presidents and CEO — Susan Mandel, Dale Abel, Barbara Byrd Keenan — on an implementation plan. We have started to identify initiatives that will support the plan's priority areas and know that we will need to expand our member workforce to implement these initiatives. As has been part of our historical practice, we will also be looking at how our governance structure and membership categories may need to evolve to embrace the spirit of inclusivity that is a core theme in the plan. We commit to keeping you updated on our progress through periodic updates.

Our Priorities

In support of our mission and vision, we will focus our efforts on the following priority areas. Our future initiatives, member, and staff resources will focus on supporting these priority areas.

COMMUNITY BUILDING AND LEADERSHIP

We will build dynamic, interdisciplinary communities that create innovative solutions to important endocrine problems.

TRUSTED ADVISER AND ADVOCATE

We will be sought out as a trusted educational resource for the media, policy makers, and the public, ensuring that scientific discovery is appropriately funded and advocating for healthcare policies that benefit patients and providers.

SCIENCE AND CLINICAL INNOVATION

We will accelerate innovative initiatives and create tools and resources to advance discovery and care.

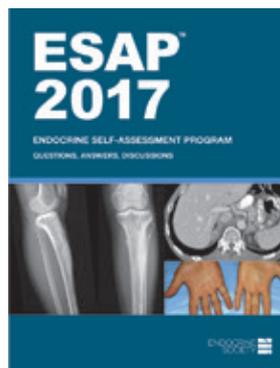
CHAMPION OF THE PROFESSIONAL

We will be the primary professional home for endocrine scientists and clinical practitioners by supporting and valuing them through all career stages.

I hope that you are as energized by our new plan as I am. I believe that this plan positions our Society for continued growth and success. I'd also like to thank the SP4 Task Force for their hard work and commitment to our Society. Their passion and dedication to SP4 and our Society is what made this plan possible. 

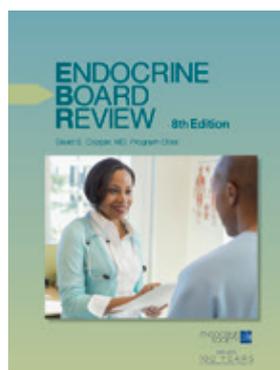
— **Lynnette Nieman, MD**, President, Endocrine Society

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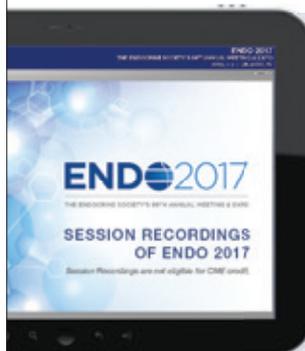
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FROM THE **EDITOR**

A Focus on Thyroid Controversies

AS WE BEGIN 2018, THIS ISSUE TAKES A CLOSER LOOK AT the number of disagreements about how to treat various thyroid conditions. In “Second Opinion” (p. 20), the issue at hand is whether to routinely use imaging procedures to diagnose pediatric patients who have congenital hypothyroidism. To address this conundrum, senior editor Derek Bagley spoke to two pediatric endocrinologists for their insights. On the one hand, Johnny Deladoëy, MD, PhD, from the University of Montreal in Canada, feels that screening allows physicians their best chances at preventing disabilities with early treatment in newborns with congenital hypothyroidism. “Given the importance of [newborn screening tests] for [congenital hypothyroidism], it is important to assess its quality, and thyroid imaging is an important benchmark,” he says.

On the other hand, Stephen LaFranchi, MD, from the Oregon Health & Science University in Portland, thinks that imaging newborns for congenital hypothyroidism is not necessarily a bad option, but it shouldn’t be mandatory, and physicians should be cautious, adding that each pediatric endocrinologist should decide what best fits his or her practice. “But my take is, this point of view that, ‘Imaging should be done and you’re doing the wrong thing if you don’t do routine imaging.’ That’s not correct,” he explains, adding that “if you feel comfortable and confident that you can treat this patient, and ensure daily adherence without it, then you can forgo it.”

A recent study in the Endocrine Society’s journal *Endocrine Reviews* gives us our second controversial thyroid topic, again written by Derek Bagley. In “Decisions, Decisions: Controversies in Low-Risk DTC” (p. 44), the myriad opinions regarding the treatment of low-risk differentiated thyroid cancer is highlighted and covers virtually all aspects of patient care. According to Leonard Wartofsky, professor of medicine at Georgetown University and the editor-in-chief of *Endocrine Reviews*, the new controversies came to light when the American Thyroid Association released new treatment guidelines in 2017. “There were changes, really, in every step of the way in the management of patients with thyroid nodules and thyroid cancer that were counter to past practices,” he explains.

One of the factors that has led to the controversy is simply getting physicians who treat DTC to get on the same page. The lack of consensus has resulted in a wide differentiation of care, according to the paper’s lead author Megan R. Haymart, MD, from the University of Michigan. “There is a need to reduce this variation in care through rigorous study design, dissemination of study results, and physician and patient education,” she says. Wartofsky says that Haymart’s paper is a must-read for those physicians who see patients with DTC, adding that “maybe in the future, some of these management controversies will be cleared up when we have more information about the molecular nature of these tumors.” 

— Mark A. Newman, Editor, *Endocrine News*

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Editor: **Mark A. Newman**
mnewman@endocrine.org

Senior Editor: **Derek Bagley**
dbagley@endocrine.org

Art Director/Design: **Catherine C. Neill,**
CNJ Creative, LLC
www.cnjcreative.com

Staff Artist: **Anthony S. Picco**

Production Manager: **Cynthia Richardson**
crichardson@endocrine.org

Prepress & Printing: **The Sheridan Group**
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President: **Lynnette Nieman, MD**
president@endocrine.org

President-Elect: **Susan Mandel, MD**
Susan.Mandel@uphs.upenn.edu

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Chief Communications Officer: **Aaron Lohr**
alohr@endocrine.org

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TO THE EDITOR:

I was delighted to see that Medtronic's MiniMed hybrid closed loop system was included on the list of Top Products of 2017 in the current (December) issue of *Endocrine News* (page 65). However, this breakthrough technology was incorrectly identified as the 630G when it should be 670G. The two differ significantly and it is really the 670G that is a first in the field whereas the 630G is an updated version (new pump platform) of the 530G which has only low glucose threshold suspend features, not the predictive suspend and automated basal delivery that is in the 670G.

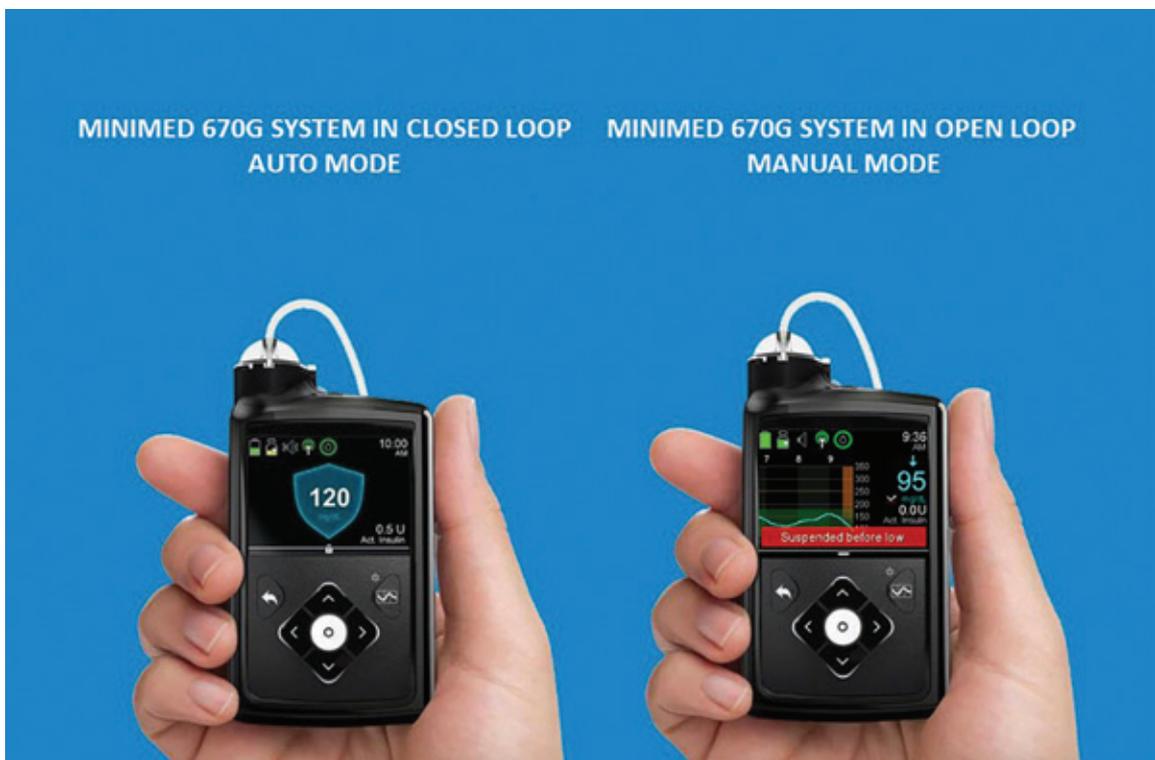
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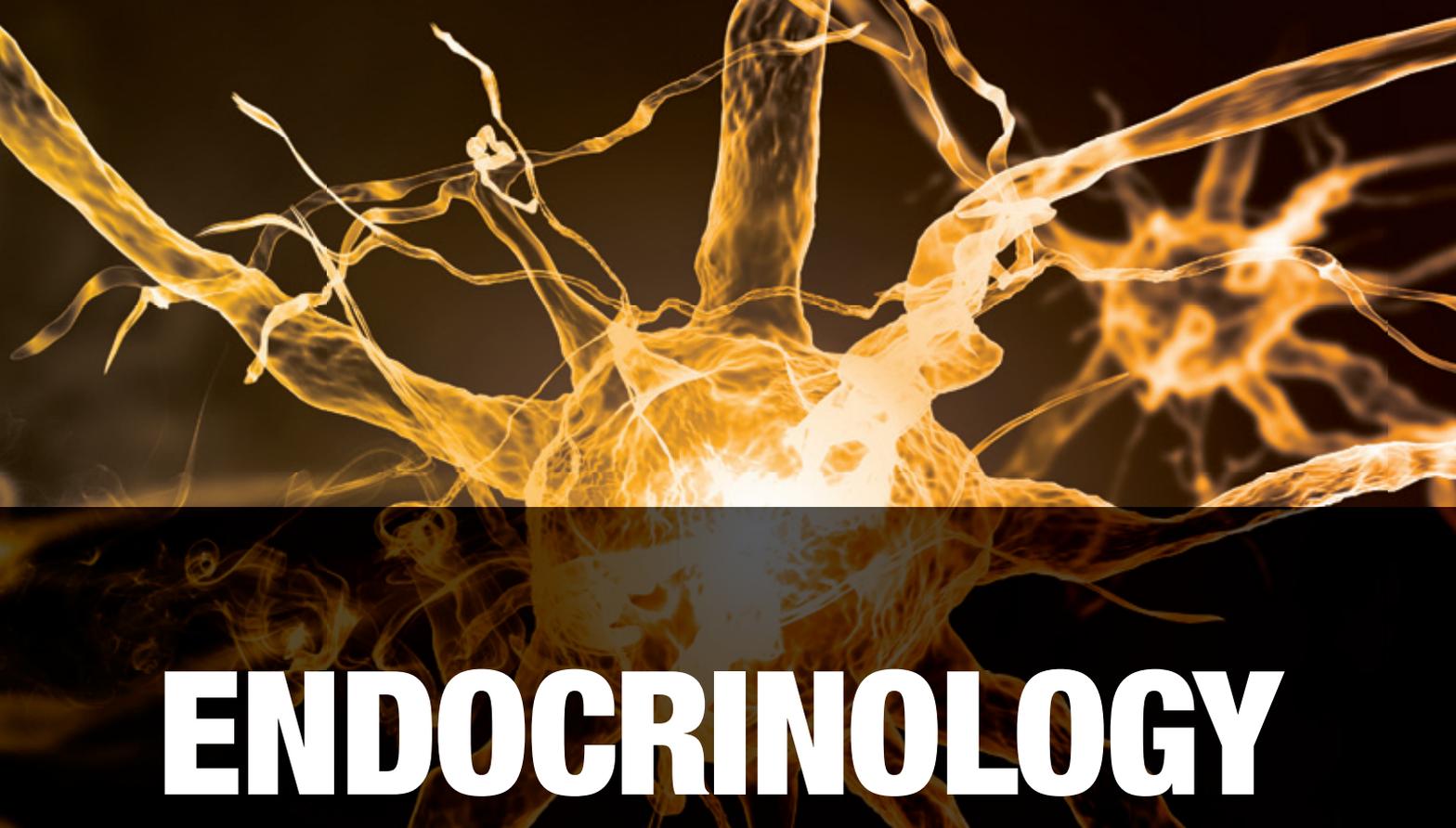
Medical Director, Medtronic Diabetes; Past-President, Endocrine Society; Professor of Medicine, Uniformed Services University of the Health Sciences; Director Emeritus, Diabetes Institute, Walter Reed National Military Medical Center



THE EDITOR RESPONDS:

Endocrine News regrets the error and is pleased to show the 670G:





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As our members, authors, and readers, your opinions matter. In response to your feedback, trends in 21st-century academic study, and environmental awareness, we are moving *Endocrinology*, our premier basic science journal, to continuous online-only publication in 2018.

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Teresa Woodruff Named to National Academy of Inventors

Woodruff is credited with coining the term “oncofertility” and invented clinical practice management strategies that merged two fields: oncology and fertility.

Endocrine Society past-president Teresa K. Woodruff, PhD, has been named a 2018 fellow of the National Academy of Inventors (NAI).

Woodruff, the newly installed editor-in-chief of *Endocrinology*, is the Thomas J. Watkins Memorial Professor of Obstetrics and Gynecology in the Feinberg School of Medicine, professor of biomedical engineering in the McCormick School of Engineering, and dean of The Graduate School. She founded and directs the Women’s Health Research Institute and is director of the Center for Reproductive Science. An expert on ovarian biology and reproductive science, she is an internationally recognized leader in fertility research.

Election to NAI fellow status is a high professional distinction accorded to academic inventors who have demonstrated a prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development, and the welfare of society.

This year’s fellows will be inducted April 5 at the Mayflower Hotel in Washington, D.C. as a part of the seventh annual NAI Conference. U.S. Commissioner for Patents Andrew H. Hirshfeld will deliver the ceremony’s keynote address.

Woodruff is credited with coining the term “oncofertility” and invented clinical practice management strategies that merged two fields: oncology and fertility. Oncofertility is now a recognized field of medicine and provides reproductive options for young cancer patients around the globe. She has 11 issued patents related to her reproductive research, including for a novel method to connect reproductive tissues in a microfluidic device and a method to increase the fertilization potential of cells in the ovary.

Woodruff is just one of 912 total NAI fellows, representing more than 250 research universities and governmental and non-profit research institutes.



ATA Calls for Research Grants Proposals by January 29



The American Thyroid Association (ATA) is pleased to announce the availability of funds to support new investigator and trainee-initiated research projects in the area of thyroid disease and thyroid cancer. The thyroid research grant submission site is now open and closes Monday, January 29, 2018.

Topics may include, but are not limited to:

- Clinical disorders of thyroid function
- Iodine uptake and metabolism
- Pediatric thyroidology
- Thyroid autoimmunity
- Thyroid cancer
- Thyroid hormone effect and metabolism
- Thyroid hormone in development and the brain
- Thyroid imaging
- Thyroid nodules and goiter
- Thyroid and pregnancy

Thanks to the generosity of the American Thyroid Association (ATA) members, partners and friends, ThyCa: Thyroid Cancer Survivors', Inc., and Bite Me Cancer as well as contributions from the Combined Federal Campaign, and the Health and Medical Research Charities, the ATA will award eight new grants and seven renewing grants in 2018.

- The American Thyroid Association will support three new grants in 2018 and three renewing grants.
- ThyCa: Thyroid Cancer Survivors' Association, Inc. (www.thyca.org) will support two new general thyroid cancer grants, one medullary thyroid cancer grant and 3 renewing grants.
- Bite Me Cancer (www.bitemecancer.org) will support one new thyroid cancer grant and one new renewing grant.

Research awards are intended to assist new investigators, U.S. or international, in obtaining preliminary data for submission of a more substantial application (e.g. to the National Institute of Health (NIH)). Research grants, up to \$25,000 annually, will be awarded for up to two-year terms. The second year funding is contingent on review of a satisfactory progress report submitted by the funded investigators in the fourth quarter of the first year of funding.

Go to www.thyroid.org for more information.



Richard Bergman Honored by Metabolic Institute of America

Richard Bergman, PhD, spoke at the Metabolic Institute of America's 15th Annual World Congress on Insulin Resistance, Diabetes & Cardiovascular Disease where he received the Distinguished Leader in Insulin Resistance Award.

PHOTO CREDIT: Darren Miller/Metabolic Institute of America

Richard Bergman, PhD, received the Distinguished Leader in Insulin Resistance Award for his groundbreaking efforts to predict, prevent, treat, and ultimately cure diabetes.

Bergman, director of the Sports Spectacular Diabetes and Obesity Wellness and Research Center at Cedars-Sinai and the Alfred Jay Firestein Chair in Diabetes Research, accepted the award Dec. 2 in Los Angeles at the Metabolic Institute of America's 15th Annual World Congress on Insulin Resistance, Diabetes & Cardiovascular Disease.

Established in 2006, the award celebrates scientific leadership and unique contributions to understanding insulin resistance, obesity, and diabetes.

Yehuda Handelsman, MD, the Metabolic Institute of America's medical director and principal investigator, praises Bergman for his stellar career spanning more than four decades. "Dr. Bergman has contributed significantly to our understanding of the pathophysiology of insulin resistance," Handelsman says. (Insulin resistance can cause high blood glucose levels and lead to prediabetes or type 2 diabetes.)

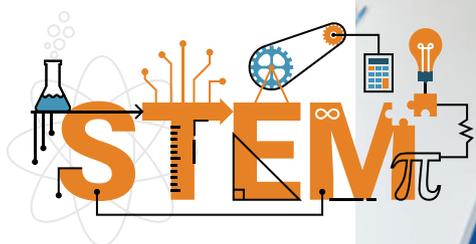
Handelsman also cites Bergman's global scientific impact. "He created the Minimal Model for assessing insulin sensitivity, which led to him developing the Disposition Index. The Disposition Index is a powerful predictor of diabetes risk and has impacted diabetes research throughout the world."

A professor in the Cedars-Sinai departments of Biomedical Sciences and Medicine, Bergman has published over 400 peer-reviewed papers, including landmark studies demonstrating the importance of insulin's indirect control of liver glucose production; insulin transport from blood to the cells of patients with insulin resistance; and elevated nocturnal fatty acid levels in mediating the development of diet-induced insulin resistance and hyperinsulinemia (excess levels of insulin circulating in the blood).

Shlomo Melmed, MB, ChB, executive vice president of Academic Affairs and dean of the medical faculty at Cedars-Sinai, saluted Bergman for the well-deserved award. "This award is a reflection of the recognition that Dr. Bergman enjoys globally in the field of diabetes and obesity research," Melmed says. "His discoveries have rightly earned the accolades of his peers, and this award is further testament to the remarkable contributions he's made."

Bergman has received many honors, but this one was especially gratifying. "This award is particularly meaningful because it's given by some of the most highly regarded international leaders in the field, and it's presented at an annual conference attended by scientists from around the world," Bergman says. "After a long career, receiving this level of recognition is very fulfilling."

Following the award presentation, Bergman delivered a keynote address, "How They Talk! Inter-Organ Communication and Diabetes Pathogenesis."



Alliance of Scientific Societies Launched

The Biophysical Society and the American Society for Cell Biology are leading an effort with the support of the National Science Foundation to create an Alliance of Scientific Societies for broad participation in science, technology, engineering, and math — or STEM — for the next generation of scientists. The Endocrine Society is one of the founding partners in this new alliance, along with the American Society for Biochemistry and Molecular Biology, the American Society for Pharmacology and Experimental Therapeutics, and the Scientific Career Research and Development Group at Northwestern University. The ultimate goal is for other scientific societies to join the Alliance as these efforts move forward.

Building a diverse and inclusive STEM workforce is a goal shared by many institutions. However, the efforts to understand effective interventions leading to increased participation of underrepresented individuals in STEM

remain isolated in their scientific disciplines. The Alliance aims to serve as a unified voice across disciplines to help community members establish effective ways to coordinate collective efforts to address the needs of minority scientists, thus improving the efficiency and dissemination of programs serving under-represented minorities (URM).

The Alliance will achieve its goals by conducting a three-meeting conference series that will bring together the Committees for Diversity, Inclusion, and Minorities Affairs Committees (MACs), and society leadership from many professional/scientific societies and other stakeholders that advocate for the diversification of our STEM workforce. ^{EN}

If you would like to learn more about these efforts please contact Alliance leadership:

ramirezalvarado.marina@mayo.edu

vsegarra@highpoint.edu

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With over 7,000 attendees, nearly 2,000 abstracts, and over 200 other sessions, **ENDO 2018** is the leading global meeting for endocrinology research and clinical care. Join us for the most well attended and valued translational endocrinology meeting in the world. Bringing together leading experts, researchers, and the most respected clinicians in the field, **ENDO 2018** represents a convergence of science and practice that highlights and facilitates breakthrough discoveries in the field of endocrinology. Spend time connecting with peers and colleagues, exchanging ideas and information, and getting out in front of the latest trends and advancements in hormone health. The meeting also hosts other satellite and pre-conference events.

Key Dates:

- **Advance Registration:**
December 1, 2017 – January 16, 2018
- **Late-Breaking Abstract Submission:**
January 11 – February 5, 2018
- **Housing Deadline:**
February 22, 2018

54th Annual Clinical Diabetes and Endocrinology Conference

**Snowmass Village, Colo.,
January 20 – 23, 2018**

The 54th Annual Clinical Diabetes & Endocrinology conference will address multifaceted approaches to the management and treatment of type 1 diabetes and type 2 diabetes, including both existing and emerging therapeutics; case studies in obesity and diabetes; updated diabetes technologies; and much more.

www.njhealth.org/diabetes-conference

2018 ISCD Annual Meeting

Boston, Ma., February 28 – March 3, 2018

The International Society for Clinical Densitometry's Annual Meeting will provide thought-provoking, case-based Plenary Lectures, Ask-the-Expert sessions and special education sessions covering the latest research, diagnosis, treatment and advances in bone densitometry and osteoporosis.

www.icsd.org/

9th International Congress of Neuroendocrinology

Toronto, Ontario, Canada, July 15 – 18, 2018

At the ICN 2018, 64 state-of-the-art speakers and eight plenary lecturers will cover the excitement of modern neuroendocrinology from molecules to behavior, across four main themes – metabolism, reproduction, stress, and timing. Highlights include four concurrent symposium sessions, poster sessions with networking opportunities, and top research in neuroendocrinology from around the world.

www.icn2018.org

EndoBridge 2018

Antalya, Turkey, October 2 – 28, 2018

Jointly organized by the Endocrine Society, European Society of Endocrinology, and The Society of Endocrinology and Metabolism of Turkey, EndoBridge will provide a comprehensive update in the field of endocrinology. Held on October 25–28, 2018 in Antalya, Turkey, this meeting is 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

18th International Congress of Endocrinology and 53rd SEMDSA Congress

**Cape Town, South Africa,
December 1 – 4, 2018**

The Society for Endocrinology, Metabolism and Diabetes of South Africa (SEMDSA) is proud and excited to have been selected to host ICE 2018 together with the 53rd annual SEMDSA Congress. The Program Organizing Committee is currently putting together a stimulating program including cutting-edge academic endocrinology for basic scientists and clinicians, as well as practical clinical sessions empowering doctors with the knowledge to optimize care for their patients with endocrine disorders.

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WHY ENDOCRINOLOGY?

Expanding the Horizons in Research on Adrenocortical Tumors

BY EMILIA MOOLO PINTO, PhD, Department of Pathology, St. Jude Children's Research Hospital, Memphis, Tenn.

When I decided to become a biologist, I did not completely understand the many facets of this career. Many biology majors begin their educational journey with the goal of pursuing environmental sciences or ecology after graduation. Instead, I chose to get into healthcare. My parents encouraged me to learn about science from an early age. In fact, I have several childhood pictures taken at science and natural history museums in Sao Paulo, Brazil. Hence, it was no surprise that I was attracted to academic challenges since my childhood. However, I had little idea of which specific field would pique my interest in the years to come. In my second year of college in Sao Paulo, I took an instant liking to my first genetics class. I owe this to my professor Dr. Ana Elisa Billerbeck, who was working in human cytogenetics and told us remarkable stories of how fulfilling the life of scientist in this field is. I majored in biology, graduated two years later, and accepted a professorship at the same institution.

After a few years, at the invitation of Dr. Billerbeck, I accepted the position of a biologist at Laboratório de Hormônios e Genética Molecular at University of Sao Paulo Medicine School under the supervision of Professor Berenice Mendonça. I was stepping into a lab that is renowned for hard-working researchers, great publications, and important contributions to the field of endocrinology. The environment in our lab was

enriching, thanks to the exceptionally astute and motivated team members. There, I started a project focusing on 21-hydroxylase deficiency, which opened up the world of endocrinology to me. However, the research finding that changed my life and steered my career in a specific direction was the identification of a single, unique TP53 mutation

associated with pediatric adrenocortical tumors, a rare but prevalent condition in the population of Southeast Brazil. Following Professor Ana Claudia Latronico's advice, I shifted gears from studying genetics of the 21-hydroxylase deficiency to the TP53 field in order to understand the current research in adrenocortical tumorigenesis in the Brazilian patients harboring this mutation. I was invited to pursue my PhD at Sao Paulo Medical School of Sao Paulo University under Professor Latronico's mentorship. During my doctoral studies, we not only described this mutation in pediatric and adult patients with adrenocortical tumors but also identified it as a founder event in the Southeast Brazilian population.

At this point in my scientific career, I was certain that I had found my passion. I decided to dedicate my efforts to studying adrenocortical tumors, a rare

disease that challenges all researchers in the field. I moved to Memphis, Tenn., in 2009 where I accepted a position as a research investigator for a year at St. Jude Children's Research Hospital (St. Jude). During my one-year contract, I

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In the coming years, I hope to widen my horizons and spread awareness and knowledge about adrenocortical tumorigenesis, not just among my peers and students but also patients and healthcare professionals across the world.

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If you would like to share your story with our readers around the world, contact Editor Mark A. Newman at mnewman@endocrine.org.

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was fortunate to get a chance to perform molecular studies on adrenocortical tumor samples from around the world, because St. Jude established an International Pediatric Adrenocortical Tumors Registry for this rare disease. I found this research so engrossing that the initial one-year stint has now extended to eight years, but my enthusiasm has not waned. St. Jude has given me the opportunity to improve my skills, challenge my creativity, and to expand my collaborations, for which I am forever grateful.

Although I have been part of an amazing team and worked on excellent projects, I yearn to specialize further in this field and embrace many new challenges. Much remains to be done in this field, and it is essential to share the knowledge and expertise on adrenocortical cancers with other fellow physicians and researchers across the world, particularly in low- and middle-income countries that often lack optimal cancer care. Providing support to cancer patients, their families, and caregivers along the illness trajectory is of utmost importance. In the coming years, I hope to widen my horizons and spread awareness and knowledge about adrenocortical tumorigenesis, not just among my peers and students but also patients and healthcare professionals across the world. Another important goal is to engage more biologists and basic science researchers in endocrine meetings to promote cooperation among groups. Being a researcher has given my life immense purpose and motivation, but as Robert Frost aptly put it, "...but I have promises to keep and miles to go before I sleep." ^{EN}

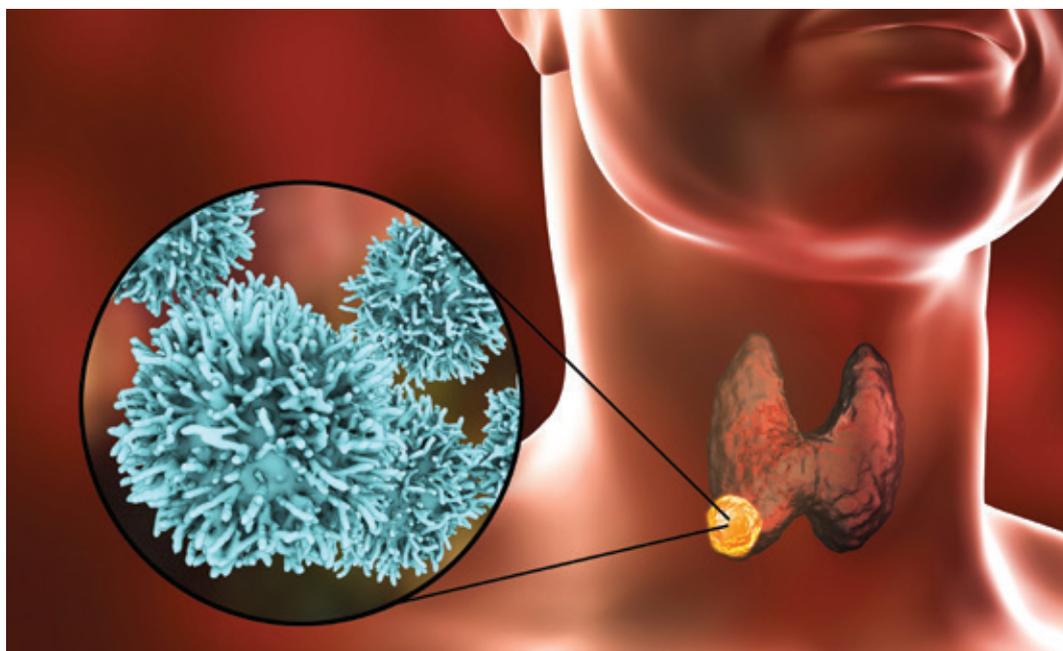


EDITOR'S NOTE: The opinions and views of the author do not necessarily represent those of *Endocrine News* or the Endocrine Society.



BY DEREK BAGLEY
Senior Editor

Unusual Case of Metastatic Functional Thyroid Carcinoma Treated with Radioactive Iodine Described



“
The patient in this report had a functional thyroid carcinoma: She remained hyperthyroid even after thyroidectomy and removal of the large gluteal metastasis, and had extremely high uptake of RAI in the metastatic tissue.”

The December 2017 issue of the *Journal of the Endocrine Society* includes an unusual case report of a patient with thyrotoxicosis due to functional thyroid carcinoma and Graves disease, who was treated successfully with radioactive iodine (RAI).

The paper, by Ari Geliebter, MD, et al., describes a 79-year-old woman came to the hospital with weakness in her upper and lower extremities. She had a remote history of hemithyroidectomy and current hyperthyroidism. “Hospital evaluation revealed a suppressed thyroid-stimulating hormone (TSH) level, positive test for thyroid-stimulating immunoglobulins, as well as a thyroid nodule, lung masses, and a 4.4-cm gluteal mass,” the authors write.

A fine-needle aspiration revealed metastatic differentiated thyroid carcinoma, and she had

a completion thyroidectomy and her gluteal mass was removed. However, her hyperthyroid status remained. “The patient in this report had a functional thyroid carcinoma: She remained hyperthyroid even after thyroidectomy and removal of the large gluteal metastasis, and had extremely high uptake of RAI in the metastatic tissue,” the authors write.

Findings: The authors go on to write that this case shows that thyrotoxicosis in the setting of metastatic differentiated thyroid carcinoma could actually be the result of functional thyroid carcinoma. “Functional thyroid carcinoma is a rare but well-described phenomenon and must be considered when evaluating thyroid carcinoma with concurrent hyperthyroidism,” they write. “Treatment with RAI may be particularly beneficial in these patients in achieving long-term disease control.”

Thyroid Detection Rate Clarified Following Fukushima Power Plant Accident



TK KURIKAWA / SHUTTERSTOCK.COM

Researchers in Japan have for the first time clarified the thyroid cancer detection rate in children and adolescents following the Fukushima Nuclear Power Plant disaster in March 2011, according to a study recently published in *The Journal of Clinical Endocrinology & Metabolism*.

The team, led by Hiroki Shimura, MD, PhD, of Fukushima Medical University, points out that thyroid cancer is of great concern in Fukushima Prefecture, especially since studies have shown the adverse health effects in areas where there is radiation fallout, like Chernobyl, where there was a “substantial rise in thyroid cancer among exposed young people.”

The researchers analyzed data from 294,905 participants, 18 years old and younger when the earthquake hit, from October 2011 to March 2014. These patients had thyroid ultrasound examinations, and then a second confirmatory examination was performed on 2,032 patients. “Thyroid cysts, nodules, and cytologically suspected cancers were detected in 68,009, 1,415, and 38 subjects in males and 73,014, 2455, and 74 subjects in females, respectively,” the authors write. “There was an age-dependent increase in the detection rate of thyroid nodules and cancer, but that of cysts reached a peak at 11–12 years. Sex affected the prevalence of thyroid nodules and cancers after the onset of puberty, but only a small difference was exhibited in that of cysts.”

Detection rates of thyroid cysts and nodules were higher in females than males, which follows the same patterns reported in previous studies, the authors note. They also write that the present

study showed an evident gender difference in the detection rate of nodules 10 years or older. “That the age of 10 years in females almost coincides with the onset of puberty suggests that the gender difference during puberty might be induced by estrogen-dependent stimulation of thyroid cell proliferation,” the authors write.

This study did have some limitations. The Japanese diet and environment may not be comparable to the Russian diet and environment, for example. Japanese people consume more iodine in seaweed. Previous studies have shown that there may be a latency period of four to five years for developing radiation-induced thyroid cancer. The fact that the examination period in this study was within three years after the nuclear accident reasonably suggested that this study was performed before any radiation-induced influence. Therefore, the results demonstrated in this study will confer as reference data to future epidemiological studies of nodular thyroid diseases in children, adolescents, and young adults.

Findings: “In conclusion,” the authors write, “the accurate prevalence of the findings of thyroid abnormalities and information on age-dependence in neonates to adolescents has been, for the first time, clarified in Fukushima, following the introduction of a new highly-sophisticated methodology that can easily detect quite small and asymptomatic thyroid abnormalities.” They also write that the results of this study will contribute to future epidemiological studies on thyroid diseases in children and adolescents.



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LAZARENKO SVETLANA / SHUTTERSTOCK.COM

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To our knowledge, this is the first population-level study assessing the potential impact of the 2009 ATA guidelines on RAI use. We found that the rate of RAI decreased significantly following 2009 for patients with localized tumors <2 cm, but many patients still underwent potentially unnecessary RAI ablation for tumors >2 cm.

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Radioactive Iodine Use in Low-Risk Thyroid Cancer Decreasing

Routine radioactive iodine (RAI) ablation for low-risk differentiated thyroid cancer (DTC) has decreased over time, yet some patients continue to receive this treatment unnecessarily, according to a study recently published in *The Journal of Clinical Endocrinology & Metabolism*.

Researchers led by Masha J. Livhits, MD, of UCLA David Geffen School of Medicine in Los Angeles, write that RAI ablation for low-risk DTC isn't supported by current practice guidelines, so they wanted to look at the trends and drivers for such a treatment.

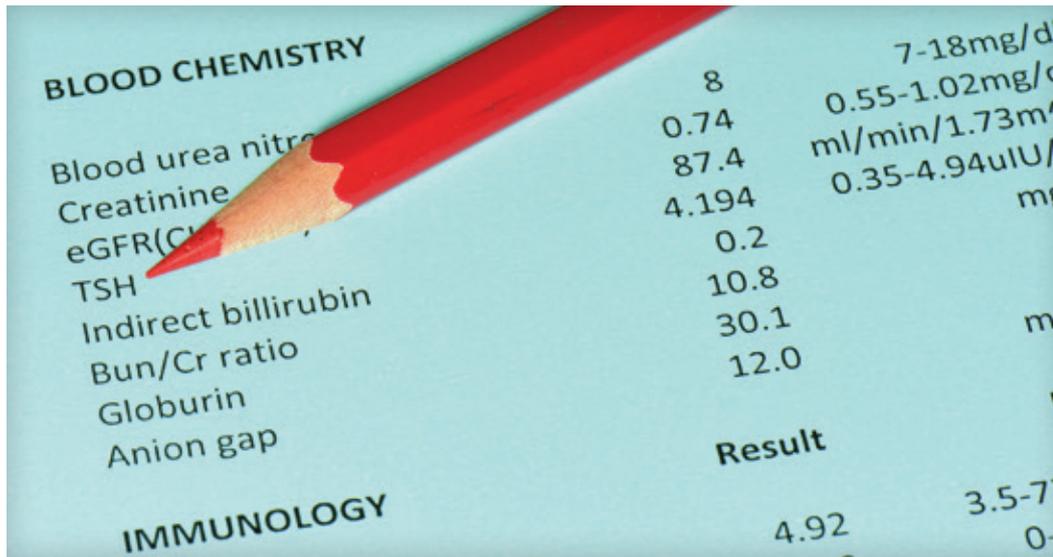
The team conducted a retrospective study of patients in California with low-risk DTC, analyzing data from 1999 to 2015. “Of 46,906 patients with DTC who underwent near-total or total thyroidectomy (mean age 48.2±15.5 [SD] years, 77% female), 25,457 (54%) received RAI,” the authors write. “The proportion of patients with regional/distant disease who received RAI remained stable at 68%. Utilization of RAI for patients with localized disease (no extrathyroidal extension, lymph node or distant metastases) decreased from 55% (1999) to 30% (2015), with the most significant change occurring in tumors <1 cm (39% to 11%). The rate also decreased for localized tumors between 1 and 2 cm (62% to 34%)

and 2 and 4 cm (67% to 49%), and remained stable at 59% for tumors >4 cm. In multivariable analysis, patients with localized disease were less likely to receive RAI if they were >65 years old (OR 0.77, 95% CI: 0.71-0.83), had tumors <1 cm (OR 0.33, 95% CI: 0.31-0.35), or were treated in an academic hospital (OR 0.71, 95% CI: 0.67-0.75).”

The researchers write that these findings are a departure from other studies that found increases in RAI use from 1990 to 2008, but the routine use of RAI ablation for low-risk DTC was first discouraged in the 2009 American Thyroid Association guidelines. “To our knowledge, this is the first population-level study assessing the potential impact of the 2009 ATA guidelines on RAI use,” they write. “We found that the rate of RAI decreased significantly following 2009 for patients with localized tumors <2 cm, but many patients still underwent potentially unnecessary RAI ablation for tumors >2 cm.”

Findings: The authors conclude that there has been a decrease in this treatment over time. And yet, many patients still receive unnecessary RAI ablation for low-risk DTC between 2 and 4 cm, despite the 2009 guidelines. For more on controversies surrounding treating low-risk DTC, read *Decisions, Decisions: Controversies in Low-Risk DTC* on page 44.

Underactive Thyroid within Normal Range May Affect Women's Ability to Conceive



New research suggests that a slightly underactive thyroid may affect a woman's ability to become pregnant—even when the gland is functioning at the low end of the normal range, according to a study published in *The Journal of Clinical Endocrinology & Metabolism*.

As part of the cross-sectional study, the researchers led by Pouneh K. Fazeli, MD, MPH, of Massachusetts General Hospital and Harvard Medical School in Boston, analyzed data from female patients between the ages of 18 and 39 years of age who were diagnosed with infertility at Partners HealthCare System hospitals in Boston, between 2000 and 2012. Only women with regular menstrual cycles and a normal fertility evaluation were included. The researchers looked at thyroid stimulating hormone (TSH) levels taken as part of the fertility evaluation from 187 women with unexplained infertility and 52 whose partners had severe male factor infertility.

“When couples who are ready to start a family are unable to conceive despite extensive

planning, multiple doctor's visits, and expensive treatments, it can be emotionally devastating,” says Fazeli. “Since our study shows that women with unexplained infertility have higher TSH levels compared to women experiencing infertility due to a known cause, more research is needed to determine whether treating these higher TSH levels with thyroid hormone can improve their chances of getting pregnant.”

Findings: The researchers found that women with unexplained infertility had significantly higher TSH levels than women with infertility due to a known cause. Nearly twice as many women with unexplained infertility had a TSH greater than 2.5 mIU/L compared to women whose partners had male factor infertility. “Since we now know from our study that there is an association between TSH levels at the high end of the normal range and unexplained infertility, it is possible that a high-normal TSH level may negatively impact women who are trying to get pregnant,” Fazeli says. “This could open up new avenues for possible treatments. The next step will be to see if lowering TSH levels will help this group conceive.” ^{EN}



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Should imaging be a routine procedure in diagnosing pediatric patients with congenital hypothyroidism? Two pediatric endocrinologists explain their opposing views on this topic to *Endocrine News*.



Second OPINION

BY DEREK BAGLEY

In September of last year, during the 10th International Meeting of Pediatric Endocrinology in Washington, D.C., Johnny Deladoëy, MD, PhD, of the University of Montreal, and Stephen LaFranchi, MD, of Oregon Health & Science University in Portland, participated in a “Controversy” session on whether thyroid imaging should be a routine step in the diagnosis and therapeutic planning for congenital hypothyroidism (CH).

Pediatric endocrinologists have yet to settle on the optimal evaluation and care of infants with confirmed CH detected by abnormal newborn screening (NBS) tests, and the use of imaging studies remains controversial. The controversy seems to stem from the debate of whether imaging studies *should be a routine part* of diagnosis and care, not whether imaging provides any value at all. It’s an important debate, since CH can lead to extreme mental deficits in children, and screening for CH can prevent irreversible intellectual disability.

For Deladoëy, imaging in NBS has two functions: (1) a diagnostic tool able to give an accurate diagnosis and to explain this diagnosis clearly to the parents; and (2) assessment of the quality of the NBS at the population level. “Newborn screening is a success of

medicine, allowing us to prevent disabilities by early treatment and follow-up of the newborn with congenital hypothyroidism,” he says. “Given the importance of NBS for CH, it is important to assess its quality, and thyroid imaging is an important benchmark.”

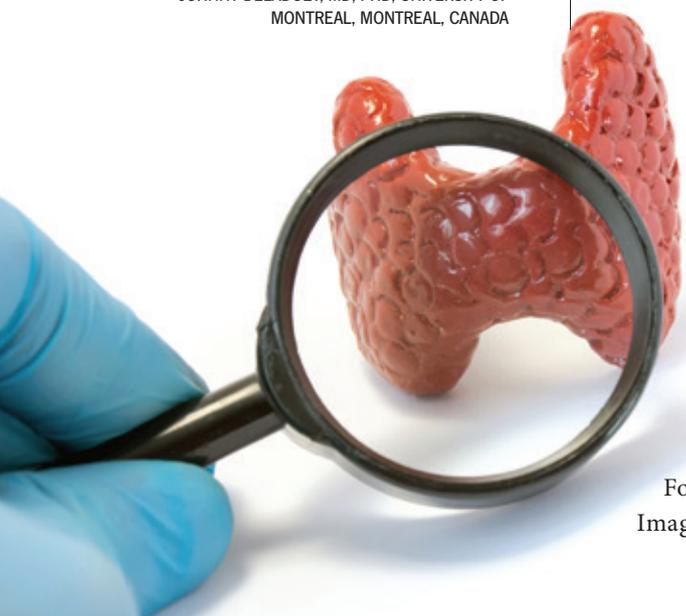
LaFranchi, however, takes issue with the thought that imaging should be a routine step. He argues there are other ways to find out the information you need, and that imaging is not routinely necessary for every infant who tests positive for CH. “I’m going to date myself, but that goes back to 1975 to 1985, we did routine screening,” he says. “But since that experience, we realized it was not information that we needed to do on every case. And so at present, I don’t routinely do imaging.”

“Circular Thinking”

If a newborn’s blood test shows elevated thyroid-stimulating hormone (TSH) levels that, of course, means the newborn needs to be evaluated further. LaFranchi says a lot can be gleaned from that test, even determining whether the CH is transient or permanent. “One can determine the likelihood of permanent versus transient almost from the get-go depending on how elevated the

“Newborn screening is a success of medicine, allowing us to prevent disabilities by early treatment and follow-up of the newborn with congenital hypothyroidism. Given the importance of [newborn screening tests] for [congenital hypothyroidism], **it is important to assess its quality, and thyroid imaging is an important benchmark.**”

— JOHNNY DELADOËY, MD, PHD, UNIVERSITY OF MONTREAL, MONTREAL, CANADA



TSH is and how low the confirmatory free T4 is,” he says, “so if you had a baby with a free T4 of 0.3 ng/dL, where the normal is 1-4 ng/dL, and the TSH is over 500, the odds are really high this is going to be permanent.”

But relying on blood tests can lead to “circular thinking,” says Deladoëy. “If you confirm this first test by another blood test, it implies that the only criteria of diagnosis is a cutoff point applied on a TSH blood value,” he says. “Cutoffs are variable in all jurisdictions, and therefore when the diagnosis of CH is based only on blood tests (especially for borderline tests), you can have a diagnosis of CH in one place but be healthy if you move to another jurisdiction.”

This circular thinking can lead to over-diagnosis and over-treatment, which would mean more visits to a doctor, which would mean more absenteeism from work and/school. During his presentation, Deladoëy pointed out that there has been an increase in CH incidence and asked what the cost of over-diagnosis and over-treatment is versus the cost of a correct diagnosis. “Imaging can determine whether the CH is due to an anatomical problem or a functional problem,” he says. “At the level of a population, it is important to assess whether an increased CH incidence is due to anatomical or functional problems. This information helps to compare NBS programs even if they use different NBS procedures and cutoffs. It also gives invaluable information about the precise diagnosis; this latter point is important if one wants to define the cause of an increase incidence of CH.”

But these questions can also be answered through follow-up according to Endocrine Society and American Academy of Pediatrics guidelines, says LaFranchi, and even if imaging showed different problems (ectopic, aplasia, goiter), physicians would still use the same starting dose of meds. “After a year of age, let’s say a baby outgrows their dose and the TSH, where normal, is under five, if it rises to greater than 10, then you know that’s going to be permanent lifelong treatment,” he says. And if that never happens, patients can stop treatment after three years, since the developing brain has a “critical dependence” on thyroid hormone, beginning before birth. Then, after a month to wait for the medicine to clear out, test again, and if TSH levels are still elevated, it’s confirmed permanent hypothyroidism.

“You might not be able to tell the parents right away the first visit you see them, but eventually you can explain that we’ll be able to tell whether this is permanent versus transient,” LaFranchi says.

“More than a Thousand Words”

For both of these pediatric endocrinologists, the debate of “To Routinely Image or To Not Routinely Image” involves the issue of patient education and



AT A GLANCE

compliance, as well as personalized medicine. Deladoëy says that an image is an extremely useful tool in making sure these parents know exactly what they're up against. He tells the story of one of his patients whose mother was very reluctant to give thyroxine replacement to her child until she could see her child's thyroid ectopy with her naked eye (after a period of undertreatment), something that might have been prevented had she seen the ectopy on sodium pertechnetate scanning at diagnosis in the newborn period. "One image reveals and explains more than a thousand words," he says.

LaFranchi says that is not an unreasonable position, but in his practice, he finds it as useful to sit down with the family and explain the importance of thyroid hormone and brain development. "We say, 'The tests show that your baby is not making enough thyroid hormone. If you don't give this medicine every day and get your refills on time so you don't run out, you run the risk of causing brain damage.' And we put it in writing, and most families are persuaded by that argument," he says. But, he says, he would perform an imaging study on a newborn if the parents requested it.

Doctors Should Be Cautious

During his presentation, Deladoëy said that all he sees are benefits when it comes to routinely imaging for CH. "Besides crucial information to assess the overall quality of an NBS program, thyroid imaging gives an accurate diagnosis," he says. "It helps for discussion with the parents; the parents can see the image and really understand why we, the doctors, want to treat their babies." Physicians can determine whether the CH is transient and reassure the parents about their children's future, or if the CH is permanent, start

- ▶ Pediatric endocrinologists have yet to settle on the optimal evaluation and treatment of infants with abnormal screening tests that point to congenital hypothyroidism.
- ▶ The practice of routinely imaging these patients remains up for debate.
- ▶ Two pediatric endocrinologists share their view: one supporting routine imaging since imaging can assess newborn screening programs' quality as well as provide more accurate diagnoses, and one opposing routine imaging of every patient, since many of the same answers can be found through other means, and imaging wouldn't affect the starting dose of medication.

“ I think that individual practitioners, individual pediatric endocrinologists should decide what best fits their practice. But my take is, this point of view that ‘Imaging should be done and you’re doing the wrong thing if you don’t do routine imaging.’ That’s not correct.”

— STEPHEN LAFRANCHI, MD, OREGON HEALTH & SCIENCE UNIVERSITY, PORTLAND, ORE.



If a newborn’s blood test shows elevated thyroid-stimulating hormone (TSH) levels that, of course, means the newborn needs to be evaluated further. LaFranchi says a lot can be gleaned from that test, even determining whether the CH is transient or permanent.

“One can determine the likelihood of permanent versus transient almost from the get-go depending on how elevated the TSH is and how low the confirmatory free T4 is,” he says, “so if you had a baby with a free T4 of 0.3 ng/dL, where the normal is 1-4 ng/dL, and the TSH is over 500, the odds are really high this is going to be permanent.”

making plans for genetic counselling for the child and subsequent siblings (the recurrence risk being 25% for functional disorders and only about 1% for developmental anomalies). “That’s a lot of benefits for an imaging that is currently available in many medical centers in North America and for a very reasonable price,” he says.

For LaFranchi, it’s the word “should” that comes before “routinely image” that put him in the “opposes” slot of this session, although he’s not opposed to imaging, he just feels doctors should be cautious. “I think that individual practitioners, individual pediatric endocrinologists should decide what best fits their practice,” he says. “But my take is, this point of view that ‘Imaging should be done and you’re doing the wrong thing if you don’t do routine imaging.’ That’s not correct. If you think the information might be helpful for all the reasons we just talked about, including improving adherence to daily treatment. But if you feel comfortable and confident that you can treat this patient, and ensure daily adherence without it, then you can forgo it.” EN

BAGLEY IS THE SENIOR EDITOR OF *ENDOCRINE NEWS*. HE WROTE THE COMPREHENSIVE PROGRESS REPORT IN THE DECEMBER ISSUE.

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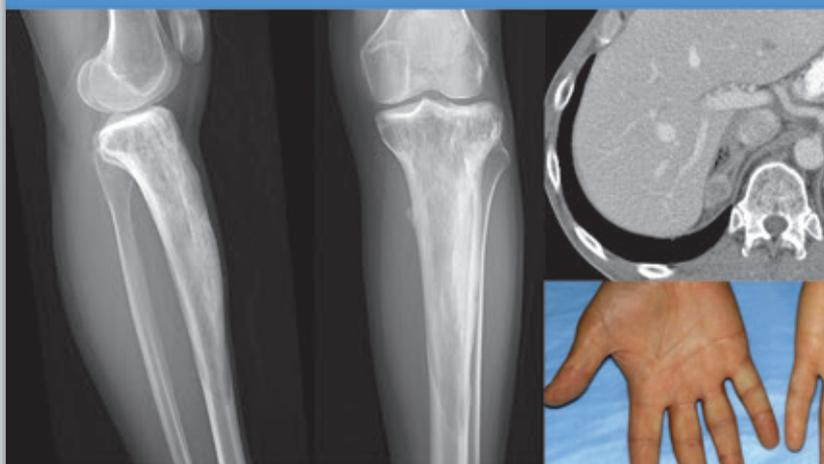
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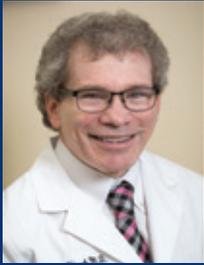
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THE ENDOCRINE SOCIETY 2018 LAUREATE AWARD WINNERS

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The dedication, commitment, and achievements of current and past award recipients have earned each a place in Endocrine Society history as well as the history of the practice and science of endocrinology.



Fred Conrad Koch Lifetime Achievement Award

**Elizabeth Barrett-Connor,
MD**

Elizabeth Barrett-Connor, MD, has made paradigm-shifting contributions in endocrine physiology and the role of hormones in disease pathogenesis (focus on gender differences) in cardiovascular disease, diabetes, osteoporosis, and breast cancer. It is hard to imagine the existence of any other individual whose work reflects such staggering impact. The hallmarks of Dr. Barrett-Connor's enduring success — a driving quest for the truth, rigorous scientific discipline, and a joyful passion — have infused every aspect of her career, whether as investigator, lecturer, teacher, or mentor. She has helped make women more visible in the endocrinology field, not by example of her own shining star, but by her constant recognition of light coming from others.

She is the founder of the Rancho Bernardo Heart and Chronic Disease Study, a prospective population-based study. From this, she explored coronary heart disease (CHD) risks, delineated differences in CHD mortality between the sexes, and exposed hyperlipidemia and diabetes as risk factors. Dr. Barrett-Connor then served as principal Investigator (PI) or co-PI for numerous clinical trials examining the role of estrogens/selective estrogen modulators on cardiovascular outcomes, lifestyle interventions on diabetes severity, and bone-specific medications on osteoporotic fractures. These include the Postmenopausal Estrogen and Progestin Interventions (PEPI) trial, Heart and Estrogen/Progestin Replacement Study (HERS), Women's Health Initiative (WHI) trials, Fracture Intervention Trial (FIT), Osteoporotic Fracture in Men (MROS) cohort, Multiple Outcomes of Raloxifene Evaluations (MORE) trial, Raloxifene Use for the Heart (RUTH) trial, the Diabetes Prevention Program (DPP), and the Emerging Risk Factors Collaboration. Although the PEPI trial found that hormone replacement therapy improved lipid profiles, the HERS results indicated that estrogen increased the risk of myocardial infarction and death in women with known disease.

Dr. Barrett-Connor's ability to question observational studies, ultimately validated by WHI findings, reflects her advocacy for the importance of performing randomized trials. Her scientific discipline and ability to identify methodological flaws make her an ultimate "seeker of truth."

— WOMEN IN ENDOCRINOLOGY



Outstanding Educator Award

Carolyn Becker, MD

Carolyn B. Becker, MD, is a superb clinical endocrinologist who is widely recognized for her longstanding devotion to mentoring and education, her outstanding clinical acumen, and her exceptional teaching skills.

Dr. Becker received her medical degree from Harvard Medical School (HMS), residency training from Michael Reese Hospital in Chicago, and endocrinology training from Massachusetts General Hospital in Boston. Since then, she has provided outstanding medical care to patients and superb teaching to countless medical students, residents, fellows, and practicing clinicians. She is associate professor of medicine at HMS and was the first "Master Clinician" in the Division of Endocrinology, Diabetes and Hypertension, Brigham and Women's Hospital (BWH), a position that involved extensive teaching of HMS students, BWH medical residents, and endocrine fellows, in addition to maintaining a full-time clinical practice.

She has received numerous HMS "Excellence in Tutoring" awards and is among the highest-rated lecturers in the Longitudinal Course in Clinical Medicine at HMS. She led the Endocrine Subspecialty Section of the BWH Intensive Review of Internal Medicine course for seven years, which culminated in her being appointed co-director of the entire course. In 2015, Dr. Becker was named a Marshall A. Wolf Master Clinician-Educator at BWH, a role created for exceptional senior clinician-educators committed to the supervision, mentoring, and education of medical residents. In 2016, she was named a Distinguished Clinician at BWH.

Dr. Becker served on the American Board of Internal Medicine Subspecialty Board of Endocrinology, Diabetes, and Metabolism from 2001 to 2007, writing examinations for board certification and recertification. As an active member of the Endocrine Society, she has served as the first vice president for physicians-in-practice and has served on many Society committees, including chair of the Clinical Endocrine Update (CEU) Steering Committee and current head of the Calcium/Bone Section of the Endocrine Board Review.

— URSULA KAISER, MD, BSC



Outstanding Clinical Practitioner Award

Marcello Bronstein, MD, PhD

Marcello Bronstein, MD, PhD, is a unique professional physician with a remarkable record of clinical excellence and creative scholarship. Marcello is the consummate physician-healer-scholar-investigator. He runs a very large clinic treating thousands of patients with pituitary disorders — likely one of the largest such referral specialty care programs globally. He provides outstanding clinical care, follow-up, and sensitive concern for his patients and their families, many of them having been under his personal oversight for decades.

He has a remarkable translational science program to supplement his prolific clinical investigation. He has the unique opportunity of both a sizable patient population, unparalleled clinical experience, and enriching scientific resources. His has been at the forefront of advancing important questions in clinical neuroendocrinology, including mechanisms underlying dopamine therapy resistance, as well as assessing novel molecules for treating pituitary tumors and hormone hypersecretory syndromes. His discovery of the utility of exploiting gonadal steroid regulation of GH in treatment of acromegaly has spawned a new vista of therapeutic opportunity for safely lowering IGF1. His papers on pituitary tumor management during pregnancy are masterpieces of clinical observation, imaginative scientific accuracy, and serve thousands of pregnant women worldwide. He has been a leader of multiple clinical discovery programs and pivotal clinical trials for new somatostatin analog therapies employing multi-receptor ligands.

He writes the classic prolactin chapter for Jameson and Degroot's *Endocrinology* and is a sought after eloquent speaker throughout the world devoted to teaching diagnosis and therapy of complex pituitary disease. As a reflection of his outstanding esteem by his colleagues, he is a past-president of the Pituitary Society and member of important international and national Society program committees. His students, postdocs, and fellows all admire him, and there is a long list of candidates wishing to train under this global leader who is a stellar clinical endocrinologist.

— SHLOMO MELMED, MD



Roy O. Greep Award for Outstanding Research

Robert V. Farese Jr., MD

Robert V. Farese Jr., MD, professor of genetics and complex diseases at Harvard TH Chan School of Public Health, is honored by the Endocrine Society with the Roy O. Greep Award for Outstanding Research for his seminal contributions to our understanding of cellular lipid metabolism. The ability to store and mobilize lipids is fundamental to the function of all cells as lipids are central to all aspects of life. In addition to being the most efficient energy currency, lipids are also key constituents of biological membranes and major components of many biological response systems as ligands, hormones, and signaling intermediates. Many of the greatest global health problems such as obesity, diabetes, fatty liver disease, and cardiovascular problems are mechanistically related to lipid excess or lipotoxicity.

Dr. Farese's work has shown how alterations in lipid synthesis and storage contribute to the pathogenesis of human metabolic diseases, particularly type 2 diabetes, and has suggested new targets for therapy. Discoveries by Dr. Farese have unraveled pathways underlying triglyceride (TG) synthesis and storage. Most importantly, Dr. Farese and coworkers discovered the DGAT enzymes, DGAT1 and DGAT2, which catalyze TG synthesis, and he has pioneered the cell biology of lipid droplets (LDs), the cellular organelle responsible for storing triglycerides and metabolic energy. Fundamental contributions in this field include identification of hundreds of genes that govern lipid storage in cellular LDs and elucidating cellular mechanisms by which LDs grow and are catabolized. These discoveries are central to the recognition of LDs as cellular organelles and opened a few fields of study focusing on these structures mechanistically and functionally.

Dr. Farese is an exceptional physician-scientist who has brought rigorous scientific approaches to bear on fundamental questions impacting human metabolic disease and the conception of novel therapeutic strategies. He has also shown exemplary dedication to scholarship, teaching, and to the training of future researchers.

— GOKHAN HOTAMISLIGIL, MD, PHD



Outstanding Leadership in Endocrinology Award

Lawrence A. Frohman, MD

Lawrence Frohman, MD, has had a long and distinguished career as a scientific and clinical leader, accomplished basic and clinical mentor, and outstanding teaching, service, and administrative achievements.

He developed one of the first RIAs for rat growth hormone and identified and partially purified a GHRH from pancreatic and lung tumors, which eventually led to isolation and sequencing of the hormone. He published extensively on GHRH gene expression, secretion, and action. He initiated studies in familial acromegaly and led an international consortium demonstrating linkage to chromosome 11q13. Following identification of AIP mutations, he and his collaborators helped elucidate the role of mutated AIP in pathogenesis of GH-secreting tumors.

As chairman of medicine at the University of Illinois at Chicago, he successfully led research, education, and clinical programs. He directed fellowship training programs for MDs and PhDs, many of whom are now in leadership positions throughout the world.

His prestigious awards include the Endocrine Society Rorer Clinical Investigation Award, Honorary Membership in the Japanese Endocrine Society, and Bane Scholar and Distinguished Faculty Award at the University of Illinois at Chicago. He served as president of the Pituitary Society and the Central Society for Clinical Research. He served on the Endocrinology Study Section and chaired the Endocrinology Program Advisory Group and the NIH National Hormone and Pituitary Program, which was instrumental in providing the highest-quality reagents for hormone assays worldwide. He served the VA Endocrinology Merit Review Board, FDA Endocrine-Metabolism Review Committee, and chaired the USP Expert Advisory Endocrinology Committee. He provided(s) exemplary service to important Endocrine Society committees, including Nominating, Program, Journals Management, Finance, and Audit; as chair of Membership and Development; and as a wise and skilled Council member.

— SHLOMO MELMED, MD



Outstanding Mentor Award

Joel Habener, MA, MD

Joel Habener, MA, MD, has been a leader in the identification and characterization of peptide hormone genes, transcription factors and mechanisms regulating β -cell function and survival. Among the seminal discoveries emanating from his lab, the identification of the first biological actions of GLP-1 is perhaps the most widely recognized and has revolutionized the treatment of diabetes. Additional major discoveries include the identification of transcription factor CREB, unlocking the mechanisms of cyclic AMP-regulated gene transcription, and cloning and characterization of Pdx-1, a MODY gene and key transcription factor important for development and function of the exocrine and endocrine pancreas.

Joel is deeply devoted to his lab and regularly meets with and mentors his students and fellows in both group and individual meetings. Over several decades, he trained dozens of fellows who themselves have founded independent, highly productive laboratories. His trainees are now widely recognized as leaders in fields spanning clinical medicine, academic administration, industry, and basic science. The next generation of scientists who have graduated from the labs of Joel's trainees are also now independent, highly productive faculty members. This list of first- and second-generation progeny is extensive and impressive, with Joel's laboratory lineage producing over 100 independent investigators, many already notable for their own substantial accomplishments and transformative scientific discoveries.

Joel is a reserved person by nature who does not trumpet his own accomplishments. A life-long supporter of the Endocrine Society, he instilled in his trainees the importance of engaging in the Endocrine Society, and many have become active members and leaders. Joel regularly attends Endocrine Society meetings, publishes papers, and maintains an active laboratory. It is difficult to overstate the importance of the laboratory environment he created. His enormous scientific contributions and stellar positive training legacy has greatly enriched the fields of diabetes and endocrinology.

— LARRY JAMESON, MD, PHD



Outstanding Public Service Award

Irl Hirsch, MD

For the past three decades, Irl Hirsch, MD, has dedicated his time to patient care, clinical research, teaching, and public service. His career can be summarized as promoting diabetes awareness to improve the lives of people with diabetes.

His public service started in the 1980s as a volunteer at the St. Louis Camp for children with diabetes. After moving to Seattle, Washington, in 1990, his community services expanded speaking for patient support groups and community education programs, including numerous yearly events such as the ADA EXPO, the JDRF patient forum, and the popular Taking Control of Your Diabetes. For endocrine fellows, he has co-chaired the Endocrine Society's Fellowship Type 1 Diabetes program since its inception five years ago and has been a regular speaker for over a decade at Endocrine University. For endocrinologists in practice, he has been a regular speaker for the Endocrine Society's CEU and its annual meeting, ENDO, in addition to plenary discussions at the ADA and AACE annual meetings. He has also been extremely active as a regular speaker for the ACP.

Much of his public service activities have focused on ensuring patients with diabetes have access to their required supplies. In 1997, he testified for the State of Washington to ensure all insurance carriers provided blood glucose test strips for patients who receive insulin. In 2011, he testified to the Washington State Health Care Authority ensuring that children younger than age 19 received an adequate supply of glucose test strips. More recently, he has been on a national crusade to assist patients with receiving affordable insulin, and currently he is working with Washington State Medicaid to ensure access to continuous glucose monitoring.

— ALAN CHAIT, MBBS, MD



Gerald D. Aurbach Award for Outstanding Translational Research

V. Craig Jordan, OBE, DSC, PhD

The Gerald D. Aurbach Award for Outstanding Translational Research is presented to V. Craig Jordan, OBE, DSC, PhD, for the discovery and development of a novel group of medicines called Selective Estrogen Receptor Modulators (SERMs) applied to address the treatment and prevention of major diseases in women. Ideally, the SERMs switch off estrogen target tissues in the breast and uterus to prevent cancer and switch on estrogen target tissues to maintain bone density or lower circulating low-density lipoprotein cholesterol to prevent coronary heart disease.

The discovery that tamoxifen is metabolically activated to 4-hydroxytamoxifen (4-OHT) with a 100-fold increased affinity for the ER not only provided a new research tool to study anti-estrogen action in vitro but also opened the door for the synthesis of the new SERMs raloxifene, bazedoxifene, and lasofoxifene. Tamoxifen and raloxifene are the pioneering SERMs whose diverse applications in breast cancer treatment and prevention, as well as osteoporosis, have contributed to improving or extending countless women's lives. Five SERMs (tamoxifen, raloxifene, toremifene, bazedoxifene, ospemifene) are FDA approved to treat diseases and conditions in women including: the treatment of all stages of breast cancer; indolent lesions of epithelial origin (formerly DCIS); and risk reduction in high-risk women, osteoporosis, dyspareunia, or help reduce the symptoms of menopause.

Few other mechanism-based group of medicines have such broad applications or such an impact in society. Raloxifene, ospemifene, and bazedoxifene all have scientific origins through structural and pharmacologic original discoveries in Jordan's laboratory. Lasofoxifene, which is not FDA approved, demonstrates many qualities of an ideal SERM: high potency for the prevention of osteoporosis (the daily dose is 1/100th the daily dose of raloxifene); a reduction of ER-positive breast cancer; and reduction in strokes and coronary heart disease. But unlike tamoxifen, there is no increase in endometrial cancer. The clinical success for the translational concept of selective ER modulation has stimulated future applications for selective nuclear receptor modulators in medicine.

— BERT O'MALLEY, MD



Outstanding Innovation Award

Barry Komm, PhD

Barry Komm, PhD, has been investigating the role of estrogens and SERMs in the reproductive tract since 1982, when he was a post-doctoral fellow with Richard Lyttle at the University of Pennsylvania.

In 1985, Dr. Komm moved to the University of Arizona, where he studied the role of estrogens in the maintenance of skeletal integrity, especially in relation to menopausal bone loss. Dr. Komm led a team responsible for demonstrating for the first time that estrogen receptors were expressed in bone and that the effect of estrogens on the skeleton was direct. Dr. Komm transitioned to the pharmaceutical industry in 1993 as one of the initial investigators in the newly designated Women's Health Research Institute at Wyeth Pharmaceuticals. One of his major goals was to develop the "ideal" SERM that would be used to treat osteoporosis, hot flashes, and vaginal atrophy, while not negatively affecting the uterus or breast — basically a one component, progestin-free hormone therapy for menopausal women. This work resulted in the development of the SERM bazedoxifene, via a coordinated program of basic science and clinical research at Wyeth. Bazedoxifene (Viviant® or Conbriza®) has been approved for the treatment of osteoporosis worldwide, except for the U.S., and the basic scientific research associated with this program expanded upon the scientific insight surrounding estrogens and SERMs. The ideal SERM pharmacologic profile was not achieved with bazedoxifene, so another approach was considered — the non-intuitive pairing of bazedoxifene with the complex mixture of natural estrogens known as Premarin®.

Dr. Komm spearheaded the preclinical program that eventually resulted in a new paradigm for the treatment of menopausal symptoms and osteoporosis prevention and was the champion through the entire drug development pathway, culminating with worldwide approval and marketing of Duavee®. He challenged other experts in the field to endorse a new concept, supported new research to expand the scientific understanding of estrogens and SERMs, and demonstrated to physicians the uniqueness and applicability of Duavee to their practice.

— GEOFFREY GREENE, PHD



Outstanding Clinical Investigator Award

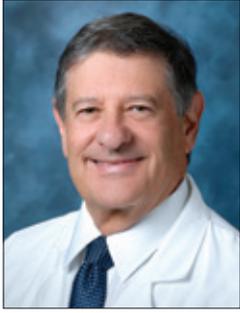
Christos Mantzoros, MD, DSC

Christos Mantzoros, MD, DSC, an extraordinarily productive investigator, is currently the chief of the Nutrition Unit at Beth Israel Deaconess Medical Center and chief of the Endocrine Section at the VA Boston Healthcare System. Dr. Mantzoros serves as a full professor of medicine at Harvard Medical School and has served as a professor in environmental health at the School of Public Health. He is also the editor-in-chief of *Metabolism* (impact factor: 5.78).

He is a true innovator and a leader in the field of metabolism, as evidenced by the novel findings he has published, the novel compounds he has developed, the successful companies he has co-founded, and his excellent track record of funding over the past two decades. His translational work has elucidated the pharmacokinetics and physiology of leptin in humans and has contributed toward its approval by the FDA and other agencies internationally, has elucidated the role of adiponectin and the IGF system in malignancies, and has propelled forward the development of the insulin sensitizer CHRS-131, currently in Phase III clinical trials. Most recently, he has been studying the physiology of novel adipokines, myokines, and gastrointestinal tract-secreted hormones with potential implications in metabolic diseases. In addition, he has been advancing our understanding of the beneficial effects of Mediterranean diet through clinical epidemiology studies and by leading the translation of these discoveries to public health benefits through Pangea Inc., which he co-founded.

Dr. Mantzoros has published over 725 scientific articles in high-quality journals such as *Nature*, *JCI*, *NEJM*, including 190 peer-reviewed reviews and chapters. The reach and impact of his work is evidenced by the more than 28,200 citations (plus 5,000 citations from the Look Ahead Study) with an H index of 88 in Thompson Reuters and more than 46,000 citations with an H index of 112 in Google Scholar.

— C. RONALD KAHN, MD



2018 Outstanding Scholarly Physician Award

Shlomo Melmed, MD

Shlomo Melmed, MD, compellingly impacts the practice of pituitary medicine by clinical leadership, educational initiatives, and major translational discoveries in pathophysiology and therapy of pituitary disease.

He has elucidated mechanisms for paracrine pituitary growth factor regulation and pituitary tumorigenesis and identified novel molecules for pituitary tumor therapy. His landmark papers demonstrated mechanisms for pituitary tumorigenesis and intrapituitary ACTH and GH control. He described ectopic GH acromegaly syndrome, discovered pituitary tumor transforming gene, and pioneered receptor subtype-specific analogs for neuroendocrine tumor therapy. He showed that receptor subtype-specific somatostatin analogs target specific pituitary hormone production, discovered the utility of these subtype-specific analogs to enhance pituitary tumor therapy, leading to a new generation of pharmacologic agents, and was global PI for the U.S. registration trials for somatostatin analogs.

Developing rodent and zebrafish models of pituitary tumorigenesis faithfully recapitulating human disease, he identified targeted small molecule inhibitors for aggressive prolactinomas and Cushing disease. Both these discoveries have spawned investigator-initiated NIH-funded prospective clinical trials. He couples translational discoveries with leading roles in developing clinical guidelines, co-authoring three Endocrine Society pituitary medicine guidelines, leading pivotal investigator-initiated clinical trials, and creating original pituitary disease classification.

He is a global leader of clinical education for pituitary medicine as pituitary editor of both the major endocrinology textbooks used worldwide, *Williams and Jameson and Degroot* respectively, and pituitary co-author for *Harrisons*. As past editor-in-chief of *Endocrinology*, and currently of *Pituitary*, he exemplifies an international pituitary scholar and leader. His exemplary publications in the very highest-quality basic and clinical journals reflect a dual combination of outstanding basic and clinical creativity underscoring his standing as a leading international clinical scholar of pituitary medicine and discovery. Few scholarly physicians have contributed more to our fundamental and clinical understanding of pituitary tumor biology as it is applied to the practice of endocrinology.

— ANNE KLIBANSKI, MD



Richard E. Weitzman Outstanding Early Career Investigator Award

Gregory Steinberg, PhD

Gregory Steinberg's research has studied the fundamental mechanism by which energy sensing, endocrine factors, and commonly used medications regulate metabolism. During his PhD, he studied adipocyte-muscle communication and the development of skeletal muscle leptin resistance in obesity. His postdoctoral research extended these findings by identifying that inflammation could impair lipid metabolism in muscle and how the IL-6 family of cytokines can increase fatty acid metabolism and insulin sensitivity.

Upon establishing his own laboratory, his research group identified that skeletal muscle AMP-activated protein kinase (AMPK) was essential for maintaining exercise capacity and for mediating the effects of muscle contractions on glucose uptake, helping to explain how exercise lowers blood sugar in people with type 2 diabetes. His work in muscle also described the molecular underpinnings of the glucose-alanine cycle by showing that during prolonged fasting AMPK is required for the induction of autophagy and the breakdown of the gluconeogenic substrate alanine.

His research has extended beyond muscle to establish a vital role for lipid metabolism in regulating macrophage inflammation and for mediating the beneficial effects of salicylate-based drugs, findings that have important implications across many different disease conditions. Subsequent studies from his laboratory established that metformin improves insulin sensitivity through inhibition of liver lipogenesis and that importantly this effect can be enhanced when combined with salicylate. More recently, work in brown and beige adipose tissue has described that AMPK is vital for maintaining mitochondrial quality and that peripheral serotonin is an important endocrine factor that inhibits thermogenesis in obesity and type 2 diabetes.

Collectively, Dr. Steinberg's work has established new paradigms by which energy-sensing mechanisms and endocrine factors regulate multiple branches of metabolism. These findings have important implications for many chronic diseases including obesity, type 2 diabetes, and cardiovascular disease.

— DANIEL DRUCKER, MD



International Excellence in Endocrinology Award

Paul M. Stewart, MD, FRCP

Professor Paul Stewart, MD, FRCP, is the recipient of the Endocrine Society 2018 International Excellence in Endocrinology Award in recognition of his remarkable work on the international endocrine stage.

A past member of the Endocrine Society Council and six Endocrine Society committees over the years, he always championed the inclusion of international members. In his role as secretary-treasurer of the International Society of Endocrinology (ISE), Paul has led efforts for the worldwide advancement of education, science, and patient care in endocrinology.

Paul has strived for inclusion across the globe. He helped found the Endocrine and Metabolic Society of Ghana and the Pan-African Federation of Endocrine Societies. Paul developed and nurtured the plan for the ISE to collaborate with national endocrine societies and regional federations to hold the flagship International Congress of Endocrinology (ICE) every two years and for it to be a truly global meeting. This led to the first international endocrine congress in mainland China in 2016. In 2018, the ICE will be held for the first time in Africa.

Paul has done all of these international activities while at the same time being a busy clinician, leading a laboratory, mentoring endocrine investigators, serving as co-editor of textbooks and journals, and serving as dean, first at Birmingham and now at Leeds.

Professor Stewart has served the international endocrine community with distinction and the International Excellence in Endocrinology Laureate Award is a fitting recognition for his tireless efforts on behalf of the endocrinologists worldwide.

— BILL YOUNG, MD, MSC



Sidney H. Ingbar Award for Distinguished Service

Leonard Wartofsky, MD, MACP

Leonard “Len” Wartofsky, MD, MACP, has been a member of the Endocrine Society since 1973, and his record of service to this organization is truly impressive. He has been a member of numerous committees including the Committee on Education (1977–1981), Program Committee (1980–1982), Congressional Relations Committee (2005), Nominating Committee (2010), Pfizer Awards Jury Committee (2008–11), and the Centennial Task Force (2013–2016). He was the chair of the Advocacy and Public Outreach Committee (2008), the Committee on Governance Affairs (2008), and the program chair of the Annual Meeting Steering Committee (2010–2021). He was the founder and director of Clinical Endocrinology Update (1997–2002). He served on the Endocrine Society Executive Council (2001–2002) and the board of directors of the Hormone Foundation (2001–2004), and then was president of The Endocrine Society (2006–2007). He was the editor-in-chief of *The Journal of Clinical Endocrinology & Metabolism* (2010–2015) and is the current editor-in-chief of *Endocrine Reviews* (2015–present).

Dr. Wartofsky delivered the first Sidney H. Ingbar Memorial Lecture at the Annual Meeting of the Endocrine Society in Seattle, Washington, in 1989, and the Clark T. Sawin Memorial Lecture at the Annual Meeting of the Endocrine Society in Houston, Texas, in 2012. He has previously been honored by the Endocrine Society with the Distinguished Educator Award (2001), the Robert H. Williams Leadership Award (2012), and the Delbert A. Fisher Research Scholars Award (2012).

During his career, Wartofsky has published over 230 peer-reviewed articles and over 170 book chapters and non-peer reviewed articles on endocrinology and thyroidology in medical literature. He has also been a valued mentor to numerous research and clinical fellows and to his many colleagues. Dr. Leonard Wartofsky has served the Endocrine Society with distinction for many years and is highly deserving of this award.

— MICHAEL MCDERMOTT, MD

ENDOver *My Head*

BY MAIGEN M. BETHEA

NAVIGATING ENDO 2018



First-time ENDO attendee, PhD student Maigen M. Bethea, reached out to veteran attendee and MSTP student, David Bacsik to get some tips on how to make the most of ENDO 2018 in Chicago.



ENDO 2018

THE ENDOCRINE SOCIETY'S 100TH ANNUAL MEETING & EXPO



This year the Endocrine Society celebrates the 100th Annual Meeting and Expo in the Windy City, Chicago, Ill., from March 17 to March 20.

As a first-time attendee, I wanted to ask an experienced ENDO veteran questions in preparation for the conference, so I reached out to David Bacsik, a second year medical scientist training program (MSTP) student at the University of Washington in Sarasota, Fla. He's attended ENDO three times and has mastered navigation of this huge conference.

Maigen: When did you first attend the ENDO meeting, and what did you expect?

David: The first meeting I attended was in 2014, in San Francisco. I was an undergrad at the College of Florida. Earlier that year, I applied through the Endocrine Society's Summer Research Fellowship. Through this program, I worked with Joe Bass at Northwestern, and at the end of the program we were allowed to attend the annual ENDO conference. I expected it to be a small conference with hundreds of people, but that definitely wasn't the case. There were thousands of people and hundreds of presentations. I didn't expect it to be so massive. Since then I've gone every year...I loved it.

Maigen: It sounds a bit overwhelming. This will be my first time attending ENDO. What advice would you give first-time attendees to ensure they get the most out of the meeting?

David: I think the absolute best thing is to interact with the professionals at the meetings. We have access to tons and tons of scientific papers, but the most exciting thing is to talk with the actual authors and get insight. Another thing that is really great is when your work overlaps with the author's work and you can form interactions. I feel that in addition to networking, it is especially critical for young budding scientists such as ourselves to participate in the formal and informal Career Development Workshops (CDW) that are available in the Career Center during ENDO 2018.



“There were thousands of people and hundreds of presentations. I didn’t expect it to be so massive. Since then I’ve gone every year... I loved it. We have access to tons and tons of scientific papers, but the most exciting thing is to talk with the actual authors and get insight.”

— DAVID BACSIK

Maigen: What do these Career Development Workshops entail?

David: These are sessions that occur one or two times per day during ENDO 2018. The Endocrine Society hosts these sessions in the Career Center, a space dedicated for trainees and early-career professionals. From these sessions, I’ve learned how to seek effective mentorship, how to be an effective mentee, how to write a scientific manuscript, and much much more. Additionally, there is a grant-writing session that is very helpful for individuals seeking to obtain their own funding during their graduate careers. All of these sessions are geared toward facilitating the professional growth of trainees and early-career professionals.

Maigen: What is the Early Career Forum?

David: It’s applicable for those in the early-career stages. This is a day-long program, designed by the Trainee and Career Development Core Committee (TCDCC). At this forum, you’re exposed to different career opportunities within the endocrinology field. People come from all walks of life with different jobs, and we’re able to sit and talk with them. That’s my favorite part. Additionally, sessions entitled “Bench, Bedside, and Beyond: Stories of How Scientists and Clinicians are Translating Their Ideas into Business Applications” have been added to further enrich the professional development of trainees and early-career professionals.

Maigen: Is there any funding or travel awards for the ECF or for ENDO 2018?

David: There’s a handful that I know about. The rest can be found on the Endocrine Society’s website. Offhand, there is the Summer Research Fellowship that is geared toward undergraduates and first-year medical students or graduates that provides an all-expenses paid trip to ENDO 2018. There are also awards offered for the Early Career Forum that pays for the workshop and covers the registration fee for ENDO 2018. Then there are the abstract-based travel awards for ENDO. [Editor’s Note: The deadline for these awards was Nov. 6, 2017.]

Maigen: If you had to describe how the ECF and CDW at ENDO have helped you in six words, what would they be?

David: I’ve found really good endocrinology mentors! 

MAIGEN M. BETHEA IS CURRENTLY A FOURTH-YEAR PHD CANDIDATE IN THE CELL, MOLECULAR, AND DEVELOPMENTAL BIOLOGY GRADUATE PROGRAM AT THE UNIVERSITY OF ALABAMA AT BIRMINGHAM. HER THESIS WORK IN THE LAB OF CHAD HUNTER, PhD, FOCUSES ON UNDERSTANDING HOW TRANSCRIPTION FACTORS AND TRANSCRIPTIONAL COREGULATORS CONTROL DECISIONS GOVERNING PANCREATIC BETA-CELL DEVELOPMENT AND POSTNATAL CELL FUNCTION.



ENDO 2018 EARLY CAREER FORUM

EndoCareers® Early Career Forum

March 16 | 8:00 AM – 6:00 PM

The Early Career Forum is an opportunity for select postdoctoral fellows, clinical fellows, medical students, and graduate students to interact with their peers and recognized experts in the endocrine community. The interactive program includes a mix of plenary, panel discussion, and breakout groups on essential career topics and issues facing young scientists.

Workshop registration and ENDO 2018 registration will be waived for travel award recipients. For individuals who do not receive a travel award, a registration fee of \$125 will apply. Registration is required for this session.

EndoCareers® Career Center

March 17 – 19, 2018

The Early Career Center is a great place for early-career professionals to gather, exchange ideas, information, and experiences. Use the Early Career Center to plan your day, meet up with friends, or recharge after a day of scientific sessions or early-career workshops.

EndoCareers® Career Development Workshops

March 17 – 20, 2018

The Endocrine Society's Career Development Workshops (CDW), designed especially for trainees, are held each day during ENDO 2018. These multi-topic sessions provide networking and professional development opportunities for trainees and early-career professionals in an intimate environment.

Mentoring and Poster Reception

March 18, 2018 | 7:00 PM – 9:30 PM

The Committee on Diversity and Inclusion is excited to host this reception at ENDO 2018. This event presents a great opportunity for trainees of underrepresented groups to present their research in an intimate environment as well as a networking opportunity for mentors from the Endocrine Society, industry, and government to share their career experiences and advice for young scientists. All are welcome!

Full program schedule can be found at <https://www.endocrine.org/endo-2018/register>.



As a new guideline on treating Turner syndrome indicates, endocrinologists can take a leadership role in the multidisciplinary teams needed to treat these patients.

A TEAM BY ERIC SEABORG Approach

New Guidelines for Treating Turner Syndrome



Endocrinologists are the logical choice to take greater leadership in the treatment of adult patients with Turner syndrome, but often these patients do not get the care they need, according to a lead author of the first comprehensive guideline on the disorder.

One in 2,000 females worldwide is born missing an X chromosome or with an abnormal X chromosome that leads to Turner syndrome, so the condition is more common than many routinely treated by endocrinologists. Yet, training programs seldom give it the attention it merits, says guideline senior author Philippe Backeljauw, MD, director of the Cincinnati Center for Pediatric and Adult Turner Syndrome Care and a professor of clinical pediatrics at the University of Cincinnati, in Ohio.

“When patients complete puberty and pediatric endocrinologists want to transition and transfer them, they would benefit from follow up with an adult endocrinologist, but sometimes they fall through the cracks,” Backeljauw says. “This is an underserved population, especially in the adult age range.”

The new guidelines aim to change that by providing a reference for treatment considerations and recommendations covering the entire lifespan, and they succeed in that aim, according to

Richard J. Santen, MD, professor of medicine at the University of Virginia and a former president of the Endocrine Society, who participated in the guidelines’ creation.

“The guideline is encyclopedic in breadth and depth and very useful for all aspects of clinical care of patients with Turner syndrome. Such a detailed manuscript will be very helpful for physicians,” Santen says.

The most recent previous guideline on the topic was published in 2007 and was far less comprehensive. “In the last decade, a lot of new information has become available,” Backeljauw says. So, he and Claus H. Gravholt, MD, PhD, of Aarhus University Hospital in Aarhus, Denmark, began an international effort by convening exploratory meetings in Europe and the U.S. The participants formed five working groups to address key areas in Turner syndrome care: diagnostic and genetic issues; growth and development during childhood and adolescence; cardiovascular disease; transition and adult care; and other comorbidities and neurocognitive issues. The working groups convened in a consensus meeting in Cincinnati in July 2016 to review their proposals.

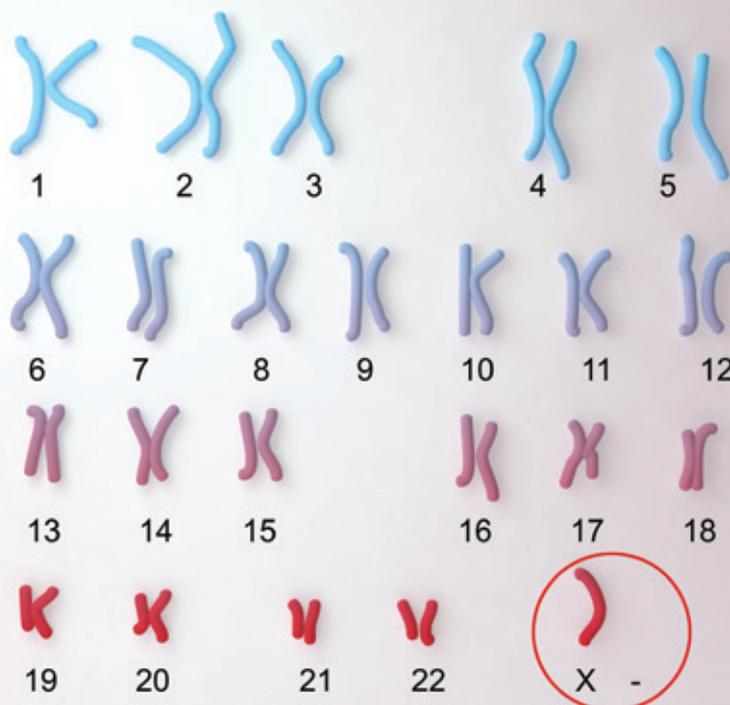
The result of the process, “Clinical Practice Guidelines for the Care of Girls and Women with Turner Syndrome: Proceedings from the 2016 Cincinnati International Turner Syndrome

Turner Syndrome Karyotype

One in 2,000 females worldwide is born missing an X chromosome or with an abnormal X chromosome that leads to Turner syndrome.



Untreated Turner syndrome patients have a life span at least 10 years shorter than the general population, and cardiovascular issues are among the greatest contributors to mortality.



Meeting” was published in the September 2017 issue of the *European Journal of Endocrinology* and is available at <http://www.eje-online.org/content/177/3/G1.long>.

An Emphasis on Patient Involvement

A unique aspect of the guidelines was the active involvement of patients and patient advocates in creating them. “We involved the advocacy groups and the Turner syndrome community from the beginning on where we should put the emphasis,” Backeljauw says. “These groups sent out a survey to several thousand patients with Turner syndrome to find out what health issues are most relevant to them. The things that were most important for the patients were growth, puberty, neurocognitive aspects, and fertility issues.”

Backeljauw says that the confirmation that patients highly value growth is important to know because pediatric endocrinologists have sometimes been criticized for focusing too much on it. “Patients are willing to undergo treatment for multiple years to improve their adult height,” Backeljauw says. “The ability to have a near-normal puberty mimicked through estrogen and progestin replacement therapy is also very important to patients.”

The patients also emphasized their concern about neurocognitive issues. “All the psychological problems that they have with anxiety, social ineptness, inaptitude, issues at school with the nonverbal learning disorder and attention deficit — they wanted these things addressed,” Backeljauw says.

Multidisciplinary Approach

The guideline says that Turner syndrome “can involve multiple organs through all stages of care, necessitating a multidisciplinary approach to care.”

“You need a primary coordinator,” Backeljauw says, “and that could be an internist or it could be an endocrinologist — somebody who has an appreciation of general internal medicine and

“When patients complete puberty and pediatric endocrinologists want to transition and transfer them, they would benefit from follow up with an adult endocrinologist, but sometimes they fall through the cracks. **This is an underserved population, especially in the adult age range.**”

— PHILIPPE BACKELJAUW, MD, DIRECTOR, CINCINNATI CENTER FOR PEDIATRIC AND ADULT TURNER SYNDROME CARE; PROFESSOR, CLINICAL PEDIATRICS, UNIVERSITY OF CINCINNATI, CINCINNATI, OHIO



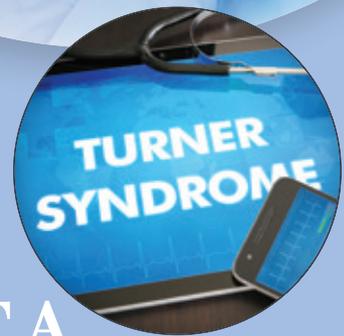
the issues specific for Turner's. Of all the subspecialties, the endocrinologist is the most suitable because several of the treatments that these patients require the most are managed by endocrinologists. Examples include estrogen progestin replacement therapy; treatment of hypothyroidism, which is as common as one out of three patients with Turner syndrome; and treatment of hypertension.” Endocrinologists are familiar with these treatments, and with the help of the guidelines can make the appropriate referrals to other specialties, such as cardiology.

Key Cardiovascular Issues

Untreated Turner syndrome patients have a life span at least 10 years shorter than the general population, and cardiovascular issues are among the greatest contributors to mortality.

“Addressing cardiovascular co-morbidities is crucial to allowing these women to have a normal life span,” Backeljauw says. “The patients need to be diagnosed early on and continuously followed. Caregivers need to have a good appreciation of the type of cardiovascular mortality that plagues this population. In the adult range, a cardinal problem is dilatation of the aorta, which can lead to aortic dissection. And patients often have consequences of congenital heart disease for which they had treatment earlier. Endocrinologists familiar with these guidelines can make the appropriate referrals to cardiology. Some patients may need to see a cardiologist only every five or 10 years, but some may require it annually.”

Cardiovascular status is also an important consideration in one of the areas where patients expressed the greatest interest — fertility and reproduction. One surprise from the literature was the high success rate of assisted reproductive technologies in helping some women carry through with pregnancy, Backeljauw says, but when patients are not “appropriately screened from a cardiovascular perspective, the result can be an extremely high-risk pregnancy. The reproductive societies have issued statements that



AT A GLANCE

- ▶ Turner syndrome affects many organs through all stages of life, so care of these patients requires a multidisciplinary team.
- ▶ Turner patients are an underserved population, especially among adults, and endocrinologists are a logical choice to take a lead role in their care.
- ▶ Managing co-morbidities such as cardiovascular issues can help extend the lives of the patients, and these guidelines provide caregivers the tools they need to make appropriate referrals to follow these patients through all stages of life.



“ You need a primary coordinator, and that could be an internist or it could be an endocrinologist — somebody who has an appreciation of general internal medicine and the issues specific for Turner’s. **Of all the subspecialties, the endocrinologist is the most suitable because several of the treatments that these patients require the most are managed by endocrinologists.**”

— PHILIPPE BACKELJAUW, MD, DIRECTOR, CINCINNATI CENTER FOR PEDIATRIC AND ADULT TURNER SYNDROME CARE; PROFESSOR, CLINICAL PEDIATRICS, UNIVERSITY OF CINCINNATI, CINCINNATI, OHIO

the risk is so high that many of these women should not undergo pregnancy, and it should be limited to just the healthiest ones with no heart disease.”

The guidelines contain specifics on what to know about cardiovascular screening and which women should be advised to avoid pregnancy.

Lay Versions for Patient Use

In addition to the formal guideline, the project leaders also wrote a lay version with “the objective that patients or their family members can go to their physicians and have an informed conversation. They can read for themselves what ought to be checked at their age and other considerations,” Backeljauw says. The lay version is available through the Turner Syndrome Society at <http://www.turnersyndrome.org/guidelines-and-checklists>. There is also a four-page, hard-copy summary for distribution in clinics and for advocacy groups to distribute to their members.

Backeljauw and Gravholt initiated the project under the auspices of the European Society for Endocrinology and the Pediatric Endocrine Society, in collaboration with the Endocrine Society, European Society for Pediatric Endocrinology, European Society of Human Reproduction and Embryology, American Heart Association, Society for Endocrinology, and Pediatric Endocrine Society.

The Endocrine Society has formally endorsed the guidelines, and Endocrine Society members were active participants in the panels that drafted the guide and the consensus conference, according to Santen. 

SEABORG IS A FREELANCE WRITER BASED IN CHARLOTTESVILLE, VA. HE WROTE ABOUT THE NEW PROPOSED APPROACHES IN USING GUIDE ARROWS ON THE FDA-APPROVED DEXCOM G5 MOBILE CGM IN THE NOVEMBER ISSUE.



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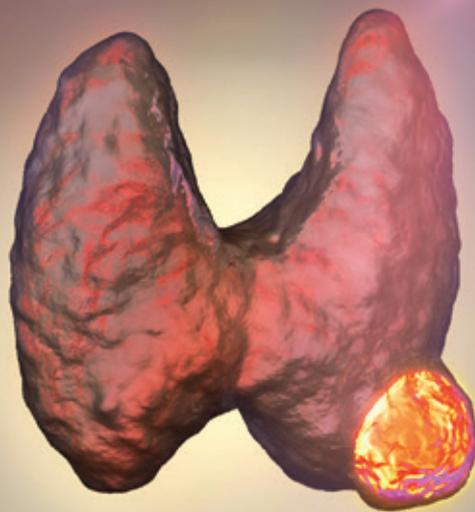
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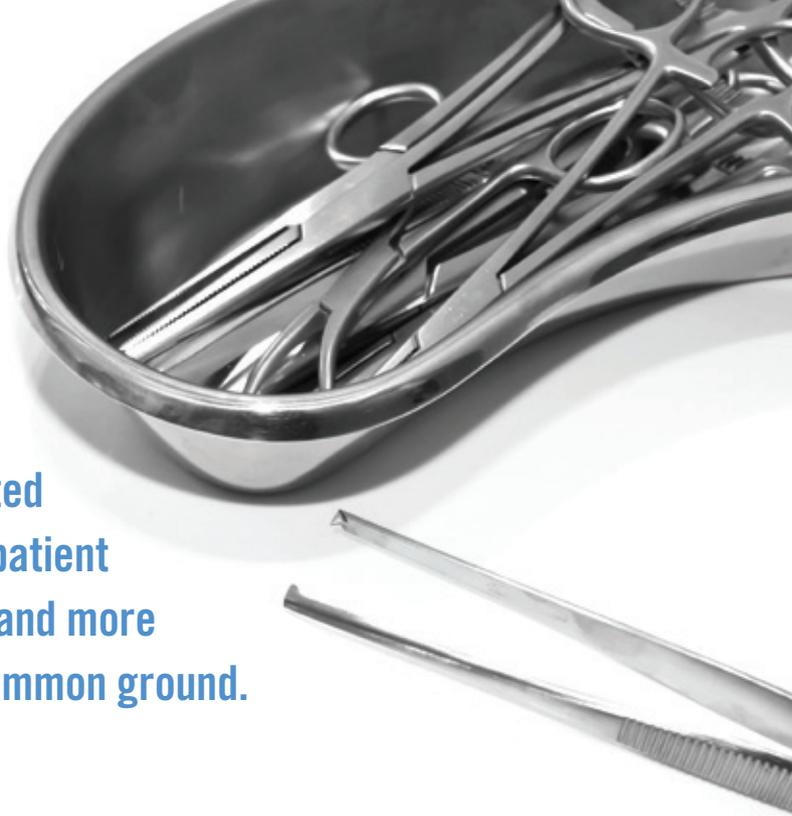
BY DEREK BAGLEY

Decisions, **DECISIONS:**

Controversies in Low-Risk DTC



A study in a recent issue of *Endocrine Reviews* addresses the myriad controversies surrounding the treatment of low-risk differentiated thyroid cancer. While every facet of patient care has its own debates, education and more in-depth studies are key to finding common ground.



Last August, a paper appeared in *Endocrine Reviews* aiming to address the controversies swirling around the management of low-risk differentiated thyroid cancer (DTC), since these controversies stem from differing views on how to handle these patients, which puts these patients at risk of being under- or over-treated.

The paper, “Controversies in the Management of Low-Risk Differentiated Thyroid Cancer,” by Megan R. Haymart, MD, of the University of Michigan, et al., points out that the controversies extend across all aspects of management, from surgery to use of radioiodine to long-term surveillance, and prior work has shown that there is marked variation in the management of low-risk DTC. Preferences for treatment can vary from physician to physician and from patient to patient. The paper was an Editor’s Choice for that month, since bringing awareness to these controversies and then acting to mitigate them will reduce patient harm.

According to Leonard Wartofsky, MD, MACP, professor of medicine at Georgetown University and editor-in-chief of *Endocrine Reviews*, these controversies have come to greater attention since the American Thyroid Association released its most recent guidelines, published last year in *Thyroid*. “There were changes, really, in every step of the way in the management of patients with thyroid nodules and thyroid cancer that were counter to past practice,” he says.

Low-risk DTC patients have excellent prognoses, and intensive treatment may put them at increased risk for harm. Intensive

surgical treatment can be associated with increased risks of hypoparathyroidism and vocal fold paralysis. Treatment with radioactive iodine can be associated with salivary gland or lacrimal duct damage. “It is important for patients to receive an intensity of treatment that fits the severity of their disease,” Haymart says. “Otherwise, the risks of harms may outweigh treatment benefits.”

Unending Controversies

And it doesn’t help that, again, these controversies are spread across every aspect of the care of patients with low-risk DTC. There’s disagreement on when to use active surveillance (no surgery but close follow-up) versus lobectomy versus total thyroidectomy. Haymart and her team point to studies from Japan by Ito et al., that showed if patients have very small, low-risk tumors, they may not need surgery at all. “This, of course, is a bit of a shock to surgeons and practitioners out there who have been taught for years you have to do a total thyroidectomy when there’s thyroid cancer,” Wartofsky says. “We’re talking about patients who have a nodule, get it biopsied, and it is cancer, but we don’t operate. We follow these patients, and should the nodule grow, or should it look like it spreads to lymph nodes, then they certainly need to be operated on.”

Then there’s disagreement on when and whom to treat with radioactive iodine and thyroid hormone suppression. “Thyroid hormone suppression may not be necessary in our lowest risk patients,” Haymart says. “However, there is evidence that suppressive doses of thyroid hormone are still used for some



“ This lack of physician consensus results in wide variation in patient care. **There is a need to reduce this variation in care through rigorous study design, dissemination of study results, and physician and patient education.**”

— MEGAN R. HAYMART, MD, ASSISTANT PROFESSOR OF MEDICINE, UNIVERSITY OF MICHIGAN, ANN ARBOR

patients with low-risk disease. Finally, since data on optimal long-term surveillance is sparse, optimal length and interval of long-term surveillance for low-risk differentiated thyroid cancer remains unknown.”

Underpowered Studies

And that’s one big factor driving these controversies, that many of the currently available studies are limited by small sample sizes and short follow-up. Haymart says that even though there are projected to be more than 50,000 new cases of thyroid cancer in 2017, it’s still a relatively rare disease. And many patients do well when treated; the incidence of recurrence and mortality is low. “Many of the current published studies are from single institutions. The combination of the relatively low prevalence of thyroid cancer combined with the low event rate make many of these studies underpowered to study outcomes most important to patients and their providers,” she says. “Population-based cancer registries such as Surveillance, Epidemiology and End Results (SEER) and the National Cancer Database do have large enough patient cohorts but some relevant cancer details such as tumor marker level, result of I-131 scan, etc., are not available in these large national registries.”

“This is a challenge and an opportunity for researchers interested in thyroid cancer outcomes,” Haymart continues. “Researchers will have to think creatively and collaboratively to address the limitations.”

Things are starting to slowly smooth out, but that means more studies are needed. Haymart says that the new National Comprehensive Cancer Network and American Thyroid Association guidelines are a step in the right direction. “Dissemination of relevant study results is also important. Ultimately, physician and patient education are key,” she says.

Complex Decision Tree

But all of these controversies point back to the importance of shared decision making and personalized medicine, spending more time with each patient to craft individualized treatment plans. “Treatment intensity should be tailored to the severity of the disease,” Haymart says.

Wartofsky says it’s a complex decision tree when personalizing these approaches to therapy. How big was the tumor? Did it spread to the lymph nodes? Was there local invasion? How old is the patient? “All of those things affect staging,” he says. “Based on the staging, we make those decisions.”

Anxiety can factor into the decision-making process as well. Some patients may balk when they’re told they have cancer but there’s no need to operate. Of course, patients aren’t privy to all of the data indicating that the majority of well-differentiated papillary cancer patients do well, and the cure rate is higher than 95%. “They think cancer is cancer, and they know people who have died of cancer,” Wartofsky says. “Of course it provokes a lot of anxiety.”

He says he has patients who insist on follow-up appointments to make sure there has been no recurrence, even though Wartofsky and his colleagues have assured these patients there is no sign of cancer left and they have indeed been cured. “We all differ in the degree of anxiety generated and how we deal with uncertainty,” he says.

“Cancer-related worry is an important problem for many of our patients,” Haymart says. “Education, access to support groups, access to counseling when needed, and future studies addressing worry and the role of worry-support tools are necessary to improve patient worry.”



Lack of Consensus

In the future, Wartofsky says, the endocrinologists studying and treating these tumors will be able to make better determinations about treatment, since they'll be able to conduct mutational and molecular analyses, leading to fewer controversies. "There's certain abnormalities that are known to be more aggressive, so we will treat those tumors more aggressively," he says. "The ones that are minor mutations we may be able to clinically follow safely without progressive intervention."

Haymart and her team have National Institutes of Health funding to study thyroid cancer treatment decision making. "With the use of survey studies linked to SEER data, we hope to obtain more information on how treatment decisions are being made and to identify the reasons for more versus less intensive treatment," she says.

But for now, controversies remain over optimal treatment of low-risk DTC. "This lack of physician consensus results in wide variation in patient care," Haymart says. "There is a need to reduce this variation in care through rigorous study design, dissemination of study results, and physician and patient education."

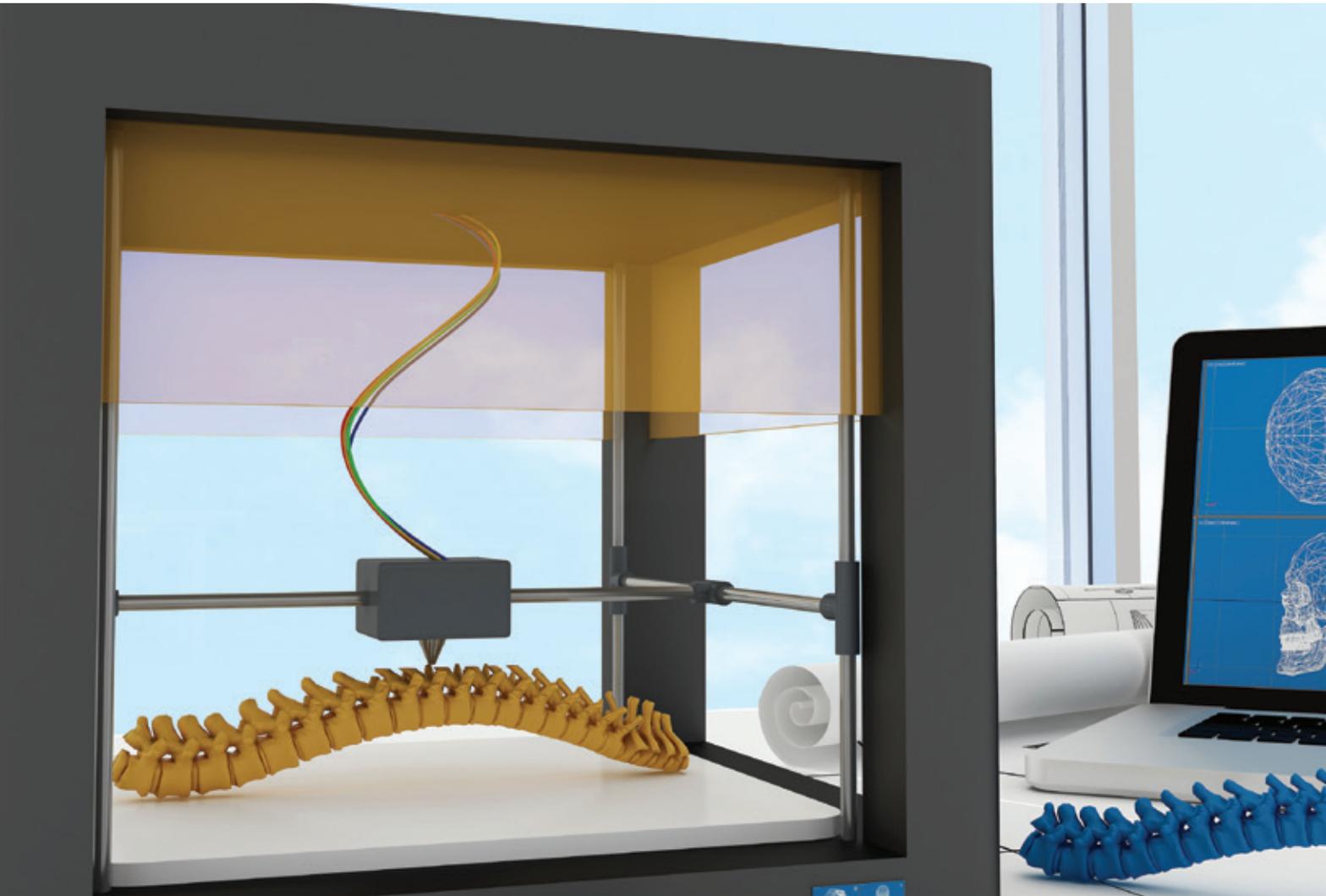
"I highly recommend clinicians who treat patients with thyroid cancer to read ['Controversies in the Management of Low-Risk Differentiated Thyroid Cancer']," Wartofsky says. "It's very well done. I think that maybe in the future, some of these management controversies will be cleared up when we have more information about the molecular nature of these tumors." ^{EN}

AT A GLANCE

- ▶ Controversies surrounding low-risk differentiated thyroid cancer put patients at risk of being under- or over-treated.
- ▶ These controversies are found in every facet of care. Awareness of these controversies will reduce patient harm.
- ▶ Steps to addressing these controversies include more rigorous studies and physician and patient education.

BAGLEY IS THE SENIOR EDITOR OF *ENDOCRINE NEWS*. HE WROTE ABOUT THE LATEST DEVELOPMENTS IN ENDOCRINE TECHNOLOGY IN THE DECEMBER ISSUE.

Printing *Possibilities*



BY GLENDA FAUNTLEROY

Advances in bioprinting — better known as 3D printing — have rapidly increased in recent years. New studies point to a number of uses that could change the way certain endocrine conditions are treated.

For the past 15 years or so, technology known as “bioprinting” has been developed and expanded that uses a three-dimensional (3D) printing process to create everything from human skin, tumors, cartilage, and muscle structures.

Biomedical scientists have made significant innovations that have not only improved the printing of tissue, but also advanced to printing entire 3D organs that will change the mortality of disease as we know it. A newly created 3D-bioprinted patch, for example, promises to help heal scarred heart tissue after a heart attack.

Better Printing, Better Results

Research in the August 2017 issue of *Scientific Reports* revealed that a team of researchers discovered a new way to 3D-print laboratory-grown cells to form living structures. The method has the potential to transform regenerative medicine by allowing for the production of complex tissues and cartilage that would possibly support or repair diseased and damaged areas of the body.

The authors found that while 3D printing living tissues has grown in recent years, developing an effective way to use the technology has been difficult. “To date, there are limited examples of bioprinted constructs containing multiple cell types patterned at high-resolution,” the team from the University of Oxford wrote.

The biggest challenge has been attempts to accurately control the position of cells in 3D. The cells often move within printed structures and the soft scaffolding printed to support the cells can collapse on itself. As a result, it remains a challenge to print high-resolution living tissues.

The authors, however, devised a way to produce tissues in self-contained cells that support the structures to keep their shape. The cells were contained within protective nanoliter droplets wrapped in a lipid coating that could be assembled, layer by layer, into living structures. Producing printed tissues in this way improves the survival rate of the individual cells and allowed the team to improve on current techniques by building each tissue one drop at a time to a more favorable resolution.

“ Loss of endocrine organ function is catastrophic to the health of an individual, yet transplantation of these complex tissues is not easy to complete. Designing an adrenal gland with the functional zones or a pituitary gland that houses each of the tropic cells is the next generation thinking in terms of organ regeneration.”

— TERESA K. WOODRUFF, PHD, EDITOR-IN-CHIEF, *ENDOCRINOLOGY*

To be useful, artificial tissues need to be able to mimic the behaviors and functions of the human body. The new method enables the fabrication of patterned cellular constructs, which, once fully grown, may mimic or enhance natural tissues.

Printing Fertility?

Loss of ovarian function affects thousands of women in the U.S. each year who undergo treatment for disease, such as cancer. While some of these women may be beyond childbearing age or desire, younger women who suffer the loss of ovarian function often have no viable long-term solution to restore their fertility.

Researchers from Northwestern University’s Feinberg School of Medicine have made a significant impact in the field of oncofertility as they seek to offer new hope to this



Endocrinology editor-in-chief Teresa K. Woodruff, PhD

population. Can a printed ovary become a viable implanted replacement?

In a study published in *Nature* last February, the scientists reported success in creating a bioprosthetic ovary by 3D printing microporous hydrogel scaffolds. The hydrogel is made from broken-down collagen that is safe to use in humans.

The scaffolds were printed to test how varying pore geometry affects the survival of ovarian follicles. A bioprosthetic ovary was then implanted into sterile mice that fully restored their ovarian function. With the bioprosthetic ovary, the mouse ovulated and gave birth to healthy pups. The pups were also able to nurse from the mother.

“I think this finding got to the utility of using a 3D printer that has seemingly endless possibilities in scaffold design and using biology and animal models to identify the appropriate design to support cell-cell interactions that are necessary for ovary function (fertility and hormones),” explains lead author Monica Laronda, PhD, assistant professor in the department of pediatrics at Northwestern.

Endocrinology editor-in-chief Teresa K. Woodruff, PhD, co-authored the study with Laronda and says that the researchers’ work with 3D printing has continued possibilities, as the goal for human research studies lies ahead.

“We are developing strategies to adapt the technology to larger animals including the pig and creating GMP-compliant 3D-printed tissue constructs,” Woodruff says. “In addition, we are adding back complexity to the structures with additional categories of follicles and cell types.” Woodruff is the dean of the Graduate School at Northwestern University in Chicago as well as the associate provost for graduate education and the Watkins Professor of Obstetrics and Gynecology.

“Loss of endocrine organ function is catastrophic to the health of an individual, yet transplantation of these complex tissues is not easy to complete,” Woodruff continues. “Designing an adrenal gland with the functional zones or a pituitary gland that houses each of the tropic cells is the next generation thinking in terms of organ regeneration.”

Laronda agrees that more discoveries in bioprinting technology are on the horizon. “I think that understanding the cell units that are responsible for organ function and how they interact with other cells, with the wide variety of architectural designs and possible inks that could be developed for an extrusion-based 3D printer, will open the doors for regenerative transplants for any organ,” she says.

And scientists also say to watch out for 4D printing that will take 3D printing to an entirely new level. **EN**

FAUNTLEROY IS A MEDICAL EDITOR/WRITER WITH MORE THAN 20 YEARS’ EXPERIENCE. SHE HAS BEEN A REGULAR CONTRIBUTOR TO *ENDOCRINE NEWS* SINCE 2010.

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 Tommy Lyager Storm, MD
 Tulay Guran
 Vibha Singhal, MD
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 Ahmad Marzuki Omar
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 Mahnaz Mellati, MD
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10 YEARS

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 Namita Gupta, MD
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 Naveen Sharma, PhD
 Nipawan Waisayanand
 Nor Shaffinaz Yusoff Azmi, MBBS
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 McCarthy, MD
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 MRCP
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 Ying Hu
 Ying Liu
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 Nicola Kreglinger, MD
 Nicole Marie Ducharme, DO
 Nike Stikkelbroeck, MD, PhD
 Nilem Patel, MD
 Nimalie Jacintha Perera, FRACP, MBBS
 Ossama Lashin, MD, PhD
 Panagiota Andreopoulou, MD
 Pooja Singal, MD
 Pouneh Fazeli, MD
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 MB, ChB
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 Isabella Finco, PhD
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 Jonea Lim, MD
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 Joseph Robert Vasselli, PhD
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 Juan Maria Ibarra Ortiga Co
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 Keith Christopher Bible, MD, PhD
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 Lassi Olavi Nelimarkka, MD, PhD
 Liina Viitas, MD
 Manuel Francisco Jimenez-Navarrete
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 Maria Cabanillas, MD
 Marie Degerblad, MD, PhD
 Marie Claire Denis, MD
 Mary Elizabeth Cox, MD
 Matthew Joseph Schiewer, PhD
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 Monica Peitx Triay, MD
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 Nima Sharifi, MD
 Ole-Petter Riksfjord Hamnvik, MBChB,
 BAO, MMSc, MRCPI
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 Rajaa Nahra, MD, MS
 Renata Da Cunha Scalco, PhD
 Ron Kusters, PhD
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 Seung Hoon Hahn, PhD
 Soumya Adhikari, MD

Suman Rice, PhD
 Tania A Bachega, MD, PhD
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 Wai Ping Angel Li, DO
 William Rojas Garcia, MD
 William Joseph Malone, MD
 Zaher Msallaty, MD
 Zhongjie Sun, MD, PhD
 Zoran Erlic, MD
 Adam Millar, MD
 Alex Tessnow, MD
 Anca Staii, MD
 Andy Vi Babwah, PhD
 Anne Louise Schafer, MD
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 Barbara Diane Hettinger, MD, PhD
 Barrie Michelle Weinstein, MD
 Bin Wang, PhD
 Bonnie Sheryl Kimmel, MD
 Bryce Allen Nelson, PhD, MD
 Carol F Elias, PhD
 Chhaya Chakrabarti, MD, FAAP
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 D Joseph Jerry, PhD
 Dengshun Miao, MD, PhD
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 Jaime Haidet, MD
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 Jin-Ho Choi, MD, PhD
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 Ksenia N Tonyushkina, MD
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 Peter Gordon Stanton, PhD
 Rebecca Lynn Cunningham, PhD
 Robert Z Gut, MD, PhD
 Roderick John Clifton-Bligh, MBBS, PhD,
 FRACP
 Savitha Shastry, MD
 Seong Yong Lee, MD
 Shivani Modi Toma, MD

10 YEARS (CONTINUED)

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Simon Vanlint, MB, BS, PhD
Sofia Shapiro, MD
Sudip Chatterjee, MD, FRCP, FACP
Supamit Ukarapong, MD
Susana Mallea Gil, MD
Thanh Minh Nguyen, MD, PhD
Thomas L Pitts Jr., MD
Vernon Naidu, FRACP, MBBS
Victor Himmat Shabanah, MD
Victor Manuel Navarro, PhD
Walter Bloise, MD
Wen-Yee Tsai, MD
Yanelis Martin, MD, CCD
Zachary Aaron-Francis Kistka, MD, FACE
Adam F Spitz, MD, FACE
Alison Marie Semrad, DO
Amisha Wallia, MD
Ammar Wakil, MB, ChB, MRCP, FRACP, MD
Anatoly Tiulpakov, MD, PhD
Andrzej Slominski, PhD, MD
Angela Florentina Barbu Sr., MD
Angelo John Mariotti, DDS, PhD
Anna Louise Thomas, MBBS, FRACP
Arjen-Kars Boer, PhD
Ashutosh S Pareek, DO
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C S Bal, MD, DSc
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Caroline Van Nieuwpoort, MD
Chandana Konduru, MD
Christina Grace Go, MD
Danielle Christine Maria Van der Kaay, MD, PhD
Diane Donegan, MB, BCh, BAO, MRCPI
Doly Nubia Pantoja, MD
Donald Soutter Alexander Mcleod, MBBS, FRACP, MPH, PhD
Donna King, PhD
Edgar Gonzalez, MD
Esra Karslioglu, MD
Gia Novell-Kimura, MD
Harold Edward Bays, MD
Hataikarn Nimitphong, MD
Heath R Meattey, MD
Honoo Satake, PhD
Huy Anh Tran, FRCPA, FFSc, FRACP, FACB, FACE, MD
Ikna Krysiak, DO
Irene S Cho, MD

Jacqueline Araujo, PhD
Kaushik Pandit, MD, DM
Kenneth Feingold, MD
Larissa Bianca Paiva Cunha de Sa
M. Yaser Mounla, MD
Ma. Ludivina Robles Osorio, PhD, MD
Maala Daniel, MD
Mahmoud M Tabbal, MD
Marcia Peck, MD, MPH
Marie-Francoise M Bourdelle Hego, MD
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Masahiro Hosaka, PhD
Mathew John, MBBS, MD, DM
Melissa Anne Pawelczak, MD
Miguel Enrique Rodriguez, MD
Mustafa Kulaksizoglu
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Pascal Birman, MD
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Rami Mahmoud Almokayyad, MD
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Robert J Vieto, MD, FACP
Sayeepriyadarshini Anakk, PhD
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Sjoerd Van Thiel, MD
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Tatiana Fiordeliso, PhD
Terrence Deak, PhD
Terri Washington, MD
Todd D Nebesio, MD
Troy Adam Roepke, PhD
William Dirk Toet, FCP, MBA
Yael Harris, MD, PhD
Yutaka Takahashi, MD, PhD
Zeina Melhem Nabhan, MD, MS

25 YEARS

Andrew S Khouw, MD
Arnold Saperstein, MD
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Blair Montgomery Bowker, MD
Cesidio Giuliani, MD, PhD
Daniel Bernard Mendlovic, MD
Daryl A Cottrell, MD
David L Hurley, PhD
Debananda Pati, MS, PhD

Diane June Donat, MS, MD, FRCP
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Frederick Daniel Grant, MD
George Mastorakos, MD
Gertrude Costin, MD
Gilbert J Cote, PhD
Gordana M Prelevic, FRCP, MD, MSc, DSc
Gregory Alan Gaich, MD
Helen Miriam Adelberg, MD
Ilene Fennoy, MD, MPH
Irene Patricia Rozmus, MS, RN, ANP
James Allen Dicke, MD
Jane E Reusch, MD
Jay J Constantine, MD
Jean-Pierre Chanoine, MD, PhD
Jens Otto Jorgensen, MD, PhD
John P Wiebe, PhD
Jose Ulises Perez-Hernandez, MD
Joseph Thomas, MD
Juan M Calderon, MD
Kanchana R Viswanathan, MD
Karel Pacak, MD, PhD, DSC
Kathleen Grace Mountjoy, BSc, PhD
Kimberly Ann Wagner, PhD
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Leann Olansky, MD
Leonard Vito Gioia, MD
Lourdes Ibanez, MD, PhD
Mahmoud Khalil Choucair, MD
Maria Elena Cuevas, PhD
Maria S Guoth, MD
Mark Howard Sherman, MD
Mark Mendel Sklar, MD
Martin Lee Binstock, MD
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Narender Kumar, PhD
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Paolo Moghetti, MD, PhD
Renu Joshi, MD
Richard P Buyalos Jr., MD
Roger Lehmann, MD
Shioko Kimura, PhD
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Tatsuo Suda, DDS, PhD, MD

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Ying Tai Chang, MPH, MD
Zuhayr T Madhun, MD
Alberto Solano, MD
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Anne L Caston, PhD
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Georges Habib Halaby, MD
Hajime Ueshiba, MD, PhD
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Kwang-Huei Lin, PhD
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Mario Sparagana, MD
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Georg Brabant, MD
Giatgen A Spinas, MD
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James Sherwood Coxe III, MD
Johannes Anthonius Romijn, MD, PhD
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John Bright Hanks, MD
Kathryn Jean Lucas, MD
Ken-ichirou Morohashi, DSc
Kid Matti Tornquist, MS, PhD
Lee Alice Goscin, MD, PhD
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Marvin Allen Leder, MD
Matthew C Leinung, MD
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Michael W Schwartz, MD
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Moises Mercado, MD

Nancy Jill Rennert, MD
Neus Potau, MD
Noriyuki Takeda, MD, PhD
Paola Loli, MD
Patricia Anne Burford, BSC, MD
Paul Colin Bartley, MBBS
Pinchas Cohen, MD
Pratima Misra, MD
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Richard Arthur Bebb, FRCP, MD
Richard Mark Plotzker, MD
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Stuart Harmon Brager, MD
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Xiu-jun Li, MD
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50 YEARS

Anthony R Means, PhD
Bert W O'Malley, MD
Gerald M Connell, PhD
Hyman J Roberts, MD
John Kevin McDonald, MS, PhD, JD
Keith D Smith, MD
Lawrence M Fishman, MD
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David N Orth, MD
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Lewis E Braverman, MD
Nathaniel Winer, MD
Richard N Andersen, PhD
Tawfik H Rizkallah, MD



7 Forbidden Words: Reports About Language Policy at CDC Stirs Controversy, Concern

“The list of words was: ‘vulnerable,’ ‘entitlement,’ ‘diversity,’ ‘transgender,’ ‘fetus,’ ‘evidence-based,’ and ‘science-based.’”

On December 15 the *Washington Post* published a story about an alleged word ban at the Centers for Disease Control and Prevention (CDC). The report was that the Trump administration was prohibiting officials at the nation’s top public health agency from using a list of seven words or phrases in official documents being prepared for next year’s budget. The list of words was: “vulnerable,” “entitlement,” “diversity,” “transgender,” “fetus,” “evidence-based,” and “science-based.”

The news spread like wildfire on social media and cable news. Rumors circulated that the “ban” was throughout the Department of Health and Human Services (HHS). At the same time, however, CDC Director Brenda Fitzgerald, MD, refuted the story, and the *Washington Post* updated its original story, noting new developments and nuances and an official statement from the HHS:

“HHS and its agencies have not banned, prohibited or forbidden employees from using certain words. Recent media reports appear to be based on confusion that arose when employees misconstrued guidelines provided during routine discussions on the annual budget process. It was clearly stated to those involved in the discussions that the science should always drive the narrative. Any suggestion otherwise is simply not true.”

The Endocrine Society was deeply concerned about the report, but noted equally as important is how much we invest in public health and the continued shortchanging of public health by lawmakers both in Congress and the administration. For example, lawmakers have not yet agreed on a deal to raise austere spending caps, as the

Take Action

Congress did not complete work on two priorities for the Endocrine Society before the end of 2017 — final FY 2018 funding and renewal of the Special Diabetes. It is critical that all members of Congress hear from their constituents about these programs. Please join our online advocacy campaigns on these issues **TODAY** by visiting www.endocrine.org/advocacy. Taking action is quick and easy. All you need to do is enter your address, and our system will provide you with a letter and direct it to your congressional delegation. With your help, we can influence Congress to take care of these important issues.

January 19 deadline to enforce sequestration's across-the-board cuts looms, finalized FY 2018 funding for the HHS, nor agreed on how to extend funding for the Children's Health Insurance Program, Special Diabetes Program, community health centers, or the National Health Service Corps.

We encouraged Congress to look into this issue and multiple Representatives and Senators sent letters to the HHS to understand the facts of the story. We will continue to advocate for the CDC and funding for the Prevention and Public Health Fund and will keep our members apprised of the situation.

Congress Passes Tax Overhaul and Partial Repeal of Obamacare

Just before Christmas, Congress passed a massive tax overhaul package. The legislation aims to lower taxes on businesses and individuals, open a part of Alaska to oil drilling and roll back a key piece of the 2010 Affordable Health Care Act (ACA). The legislation repeals the ACA's individual mandate provision that required individuals to have health insurance or pay a tax penalty. The repeal is estimated to reduce federal expenditures by approximately \$300 billion over ten years but would also lead to about 13 million fewer people with health insurance. Enactment of the tax package is a signature achievement for President Donald Trump and congressional Republicans, marking the first major rewrite of the tax code since 1986.

During debate over the legislation, we shared concerns about several provisions in the tax package with members of Congress. While we were not able to influence the elimination of the health insurance mandate, our advocacy was successful in retaining the medical expense deduction and the graduate tuition tax waiver, which was originally proposed to be eliminated by the House of Representatives. Hundreds of Society members from around the country joined our online advocacy campaign urging Congress to protect the current tax treatment for graduate education. We thank all of you who participated. This is a great example of how advocacy does make a difference!

We remain concerned about the impact of removing the individual mandate tax penalty. The mandate is a key component in aiding guaranteed insurance offerings on the exchanges. The concern is that eliminating the penalty will rattle the insurance market and raise premium rates. Senators Susan Collins (R-ME) and Lamar Alexander (R-TN) are planning to move legislation in January to create stabilization in the marketplace by renewing cost-sharing subsidies for health insurers and adding funding to bolster state reinsurance programs.



European Member States Endorse Revised Proposal to Identify EDCs



The European Commission announced on December 13 that the Standing Committee for Plant, Animals, Food, and Feed endorsed revised criteria for the identification of endocrine-disrupting chemicals (EDCs) in plant protection products.

The revised criteria remove an exemption for certain pesticides designed to interfere with the endocrine systems of target organisms, taking into account the views expressed by the European Parliament in an earlier vote, and in alignment with the Endocrine Society's recommendation. The European Chemicals Agency and the European Food Safety Authority have launched a public consultation "on the draft technical Guidance document to implement the criteria once they become applicable."

The Endocrine Society welcomes the removal of the loophole for pesticides designed to interfere with endocrine systems. Although this change is a step in the right direction, the criteria for pesticides and biocides currently fall short of what would be required to effectively protect public health for this generation and future ones.

The Society will work with member experts to develop comments on the public consultation to ensure that implementation of the criteria can improve the ability of regulatory agencies to identify and act on EDCs.

For more information on EDCs and the Endocrine Society's contributions to the process for developing criteria to identify EDCs, please see www.endocrine.org/edc.

To stay up to date on the latest congressional actions and Society advocacy, please look for updates on Endocrine News online and Society advocacy alerts.

NIH Implements Revised Definition of Clinical Trial for Grant Applications

In 2014, the National Institutes of Health (NIH) announced that the definition of a clinical trial would be revised to "a research study in which one or more human subjects are prospectively assigned to one or more interventions (which may include placebo or other control) to evaluate the effects of those interventions on health-related biomedical or behavioral outcomes." In recent months the NIH has updated policies for clinical trials to be consistent with the new definition, with many policies going into effect for grants due this month (January 2018).

Under the new definition and revised policies, many research studies involving human subjects will be newly characterized as clinical trials and will be covered by the new policies. As such, investigators with studies covered by the new definition will need to be trained in Good Clinical Practice, register their studies and submit results to ClinicalTrials.gov, and submit grant applications to FOAs that allow clinical trials.

If you have questions about whether your research is covered by the new definition, and for more information about policies and requirements, there are resources including an FAQ and case studies on the NIH website at <https://grants.nih.gov/policy/clinical-trials.htm>. We also encourage members to reach out to their program officer directly for guidance and Institute-specific grant information and funding announcements. 

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

Additional editing by Alan P. Farwell, MD, Chief, Section of Endocrinology, Diabetes and Nutrition Director, Endocrine Clinics Boston Medical Center

Sources: American Cancer Society and National Institutes of Health



Hormone Health
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FROM THE ENDOCRINE SOCIETY

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)

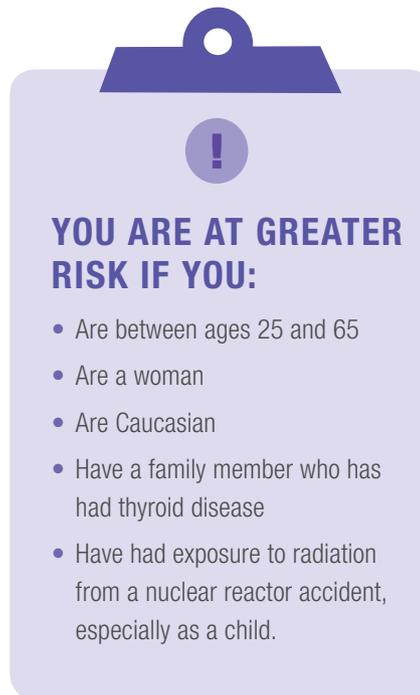
New cases per year: 62,450



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.

TREATMENT

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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To speak with a representative for print advertising opportunities, contact Dan Simone at dsimone@pminy.com or 212.904.0360. For questions about our job board, please contact the Endocrine Society at endocareers@endocrine.org or 202.971.3636.

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Pediatric Endocrinology in Southern California

Established practice of Pediatric Endocrinology providing mostly outpatient services; affiliated with the University of California Riverside School of medicine. Teaching and clinical research is encouraged but not required. Junior faculty will start as an Assistant clinical professor. Affiliation with the UCR School of Medicine provides opportunities and support with grant applications, design of clinical trials or basic science projects, Biostatistics and basic science laboratories.

Services provided:

- Weight Control and Lipids Disorders clinic with Pediatric Nurse Practitioner support.
- Diabetes Clinic with Pediatric Nurse Practitioner support.
- Thyroid Clinic
- Growth Hormone Clinic.
- Gender management program with psychologist support.
- General Pediatric Endocrinology.

Benefits:

Competitive salary, vacation, CME, student loan assistance of 100K, future potential earning income of 200K plus per year according to productivity. The City of Riverside is centrally located in southern California 46 miles from the coast and similar distance to the mountains. A city with mild weather, good schools/colleges/local Universities and affordable housing. The candidate will join another Pediatric Endocrinologist.

Contact person Eva at (951)684-8020
or email carcamopeds@yahoo.com



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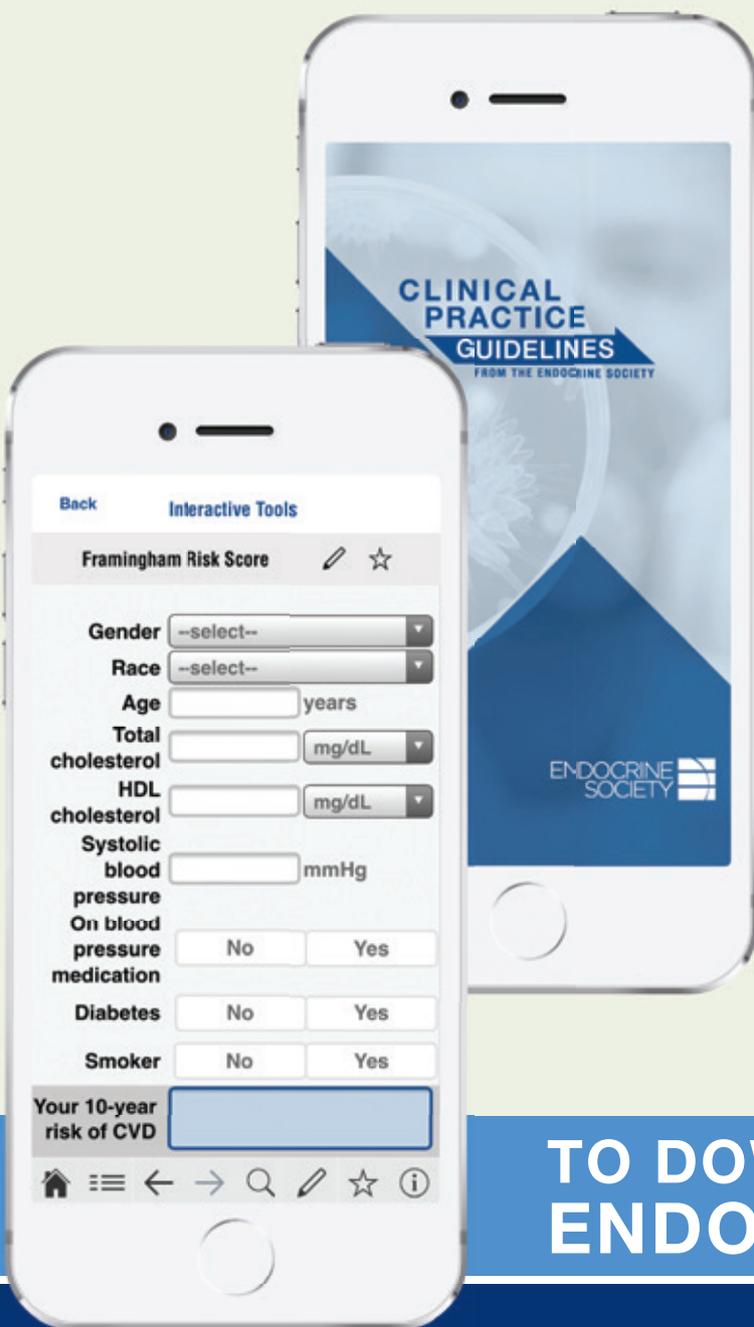
For online Job Board ads, go to: endocareers.org

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