

MARCH 2020

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

Endocrine news

INTERNATIONAL

ENDO2020 PREVIEW

Looking at the Future of **BIG DATA**

ENDO 2020's Presidential Plenary addresses how harnessing data created by clinicians, scientists, and patients could change the future of endocrinology.

- How can data be used to individualize patient care?
- Why failed clinical trials could prove to be a massive resource.
- Electronic health records and their role in improving treatments.
- What is the future for leveraging big data for diabetes research?
- The surprising ways that properly harnessing this info can save money.

EMBRACING DIVERSITY:

Celebrating 25 years of the Endocrine Society's diversity initiatives

SLEEPY HEAD:

Tips for clinicians to overcome those inevitable sleep deficits

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Hormone Science to Health

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Wrapping Up an Unforgettable Year

As I approach the conclusion of my presidential year at **ENDO 2020** in San Francisco, I would like to share some of my reflections from the past year. It has been a remarkable journey to serve you as president of the Endocrine Society and to work with an incredibly talented and motivated team of members and staff who collectively furthered our mission to “unite, lead, and grow the endocrine community.”

“

It has been a remarkable journey to serve you as president of the Endocrine Society and to work with an incredibly talented and motivated team of members and staff who collectively furthered our mission to “unite, lead, and grow the endocrine community.”

”

I highlight below, a few of this year's accomplishments, recognizing that none of these achievements would have been possible without the participation of our committed members and dedicated staff who have ensured that our many activities and initiatives continue to move forward.

I would like to acknowledge and thank our exceptional team of chairs who led the Annual Meeting Steering Committee: Overall chair, Carolyn Smith, PhD; basic science chair, Stephen

Hammes, PhD, MD; clinical science chair, David D'Alessio, MD; and clinical practice chair, Maralyn Druce, MA, MBBS, FRCP, PhD, MMed, SFHEA. Working with an outstanding team of members, they have developed an exceptional scientific and clinical program showcasing leading-edge research and providing the most current guidance for the many significant clinical challenges in endocrinology. Our registration numbers for **ENDO 2020** look fantastic and the abstract submissions have broken records with a total of 2,612 abstracts, the highest number in the past six years! I am also extremely pleased to share that, based on feedback and our implementation of several programmatic enhancements and new activities, there has been a significant increase in **ENDO 2020** registration from members of our basic science community.

New this year at **ENDO 2020**, we're bringing parts of the conference to you via a live-stream digital format as we recognize not everyone can participate in-person. Another special occasion this year is the celebration of 25 years of diversity in our field, with special events and sessions to reflect on and celebrate the important progress we have made in advancing diversity and inclusion, and to identify ways to build further on our accomplishments in this critical mission.

Another significant accomplishment this year was the implementation of the Governance Task Force (GTF) recommendations, which were shared with the membership last year at **ENDO 2019** in New Orleans and subsequently approved as bylaws amendments. The GTF, ably led by past president Lynnette Nieman, MD, made organizational recommendations that have been seamlessly implemented throughout the year. I would like to thank Nominating Committee (NC) chair Cherié Butts, PhD, for onboarding the new NC members and implementing the changes to the nominations process that resulted in a fantastic slate for the new Board members.

As part of our commitment to support and grow our basic science community and to increase the pipeline of our future leaders, we have established the Road Shows. Through this initiative, we bring distinguished endocrine faculty to deliver lectures, visit member laboratories, host career development

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None of these achievements would have been possible without the participation of our committed members and dedicated staff who have ensured that our many activities and initiatives continue to move forward.

”

forums, and other networking sessions at major regional universities and academic medical centers, that reach large and diverse swaths of our endocrine research community. The most recent Road Shows included visits to Vanderbilt University and Meharry Medical College in Nashville, Tenn., and the University of Michigan in Ann Arbor. Both were very successful!

Although exhausting, it has been a privilege to represent the Endocrine Society at multiple venues around the world, including Brazil, the Philippines, South Korea, India, Turkey, Europe, and Australia. These trips have reinforced to me the global reach of the Endocrine Society and the large number of international members who are committed to advancing the field of endocrinology.


I could continue listing many more examples of accomplishments and ongoing work that is being done by our committed members around the world and our wonderful staff. Instead, I will just say ‘thank you’ from the bottom of my heart.

To my fellow Board members, it has been an immense pleasure working with you. Your talent, thoughtfulness and dedication are commendable...and you made my job very enjoyable.

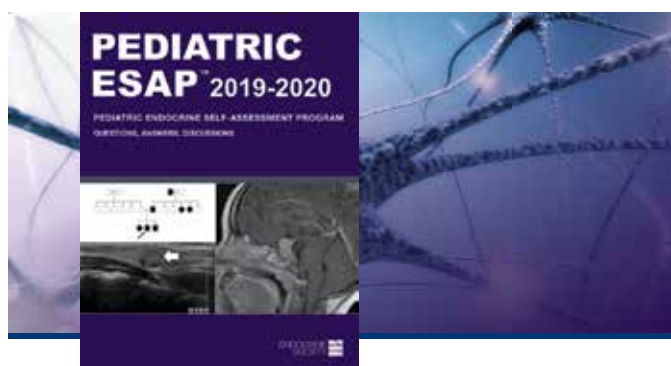
I want to give a special thanks to the officers who provided

their advice, support and camaraderie: Susan Mandel, MD, immediate past president; Gary Hammer, MD, PhD, president-elect; Dolores Shoback, MD, secretary treasurer; and most recently, Carol Wysham, MD, president-elect designate.

Equally important, a big thanks to our talented and dedicated staff, who make things happen often behind the scenes and with little fanfare. You have been great partners. I also extend my appreciation to Barbara Byrd Keenan. Under Barbara’s leadership, the Endocrine Society expanded our reach and influence and increased the engagement of our members in the Society’s mission. I thank Barbara for her years of service to the Endocrine Society and wish her well in her future endeavors.

I am enjoying the last few weeks of my presidency and I hope to see you in San Francisco to celebrate an outstanding ENDO 2020 meeting! 

E. Dale Abel, MD, PhD
President, Endocrine Society



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FROM THE **EDITOR**

Welcome to San Francisco and ENDO 2020!



When the throngs of attendees gather in the Moscone Convention Center in San Francisco for **ENDO 2020**, they will definitely be in for a treat. Not only is the world's most prestigious gathering of endocrine clinicians and scientists from around the world in full swing, but it's taking place in one of the most iconic cities in the world!

The extensive program featuring cutting-edge science, varied poster sessions, and a look at the newest products and technologies at the **ENDO** Expo show floor will be better than ever. And there's always the added attraction of the opportunity to connect with colleagues from around the world.

However, even before the official kick-off on Saturday, March 28, there's a full day of pre-conference events on Friday, March 27 that should appeal to a wide variety of endocrinologists, both clinicians and scientists:

► **Early-Career Forum** — This is an ideal opportunity for postdoctoral fellows, clinical fellows, medical students, and graduate students to interact with their peers and recognized experts in the endocrine community.

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► **Bioinformatics Workshop: Pathways and Interactions**

— This workshop, presented by the European Molecular Biology Laboratory – European Bioinformatics Institute (EMBL–EBI), is aimed at giving scientists training on how to explore and use protein interaction and pathway bioinformatics resources. Attendees will get an in-depth look into the data repositories, resources, and tools available and how to both find information on a single molecule and how to build high-quality networks to enable network analysis.

► **Introductory and Advanced Courses of the Hands-On Thyroid Ultrasound Workshop**


— The introductory course is designed to introduce participants to the use of ultrasound in diagnosing thyroid nodules and performing ultrasound-guided fine-needle aspirations. The advanced course will let you take your ultrasound skills to the next level and is designed for practitioners experienced in performing thyroid ultrasonography.

► **Global Leadership Academy** — The Global Leadership Academy (GLA) is an invitation-only training program hosted by Endocrine Society to bring together emerging leaders from the endocrine research and clinical communities to foster networking and collaboration.

As usual, senior editor Derek Bagley and I will be all over the place at **ENDO 2020**, so please feel free to flag us down if you have any great story ideas, or just give us your thoughts on the magazine. Keep in mind that we get our best ideas from you!

Hope to see you all in San Francisco!

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

If you have your own treatment or research stories to share with the readers of *Endocrine News*, feel free to contact me at mnewman@endocrine.org. 

**CLINICAL
PRACTICE
GUIDELINES**

FROM THE ENDOCRINE SOCIETY

**Pharmacological
Management of Osteoporosis
in Postmenopausal Women**

A STANDARD FOR CARE UPDATE

Improve patient care with our new guideline update which recommends romosozumab under selective criteria as another pharmacological therapy to prevent osteoporosis and reduce fracture risk in postmenopausal women.

**READ THE GUIDELINE UPDATE AT
[ENDOCRINE.ORG/2020OSTEOPOROSIS](https://endocrine.org/2020osteoporosis)**

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Society Applauds Failure of S.D. Bill to Restrict Medical Care for Transgender Teens

“
The Endocrine
Society’s Clinical
Practice Guideline
recommends
not starting
sex hormone
treatment until a
teenager is capable
of giving informed
consent.
”

The Endocrine Society is pleased a South Dakota bill that would have barred healthcare providers from treating transgender teenagers using evidence-based clinical practice guidelines is not moving forward this session.

Several states are considering legislation that would carry penalties of jail time and fines for healthcare providers who treat transgender teenagers using evidence-based practices. These state bills reflect widespread misunderstandings about the current state of gender-affirming care for transgender and gender incongruent individuals and do not rely on medical evidence.

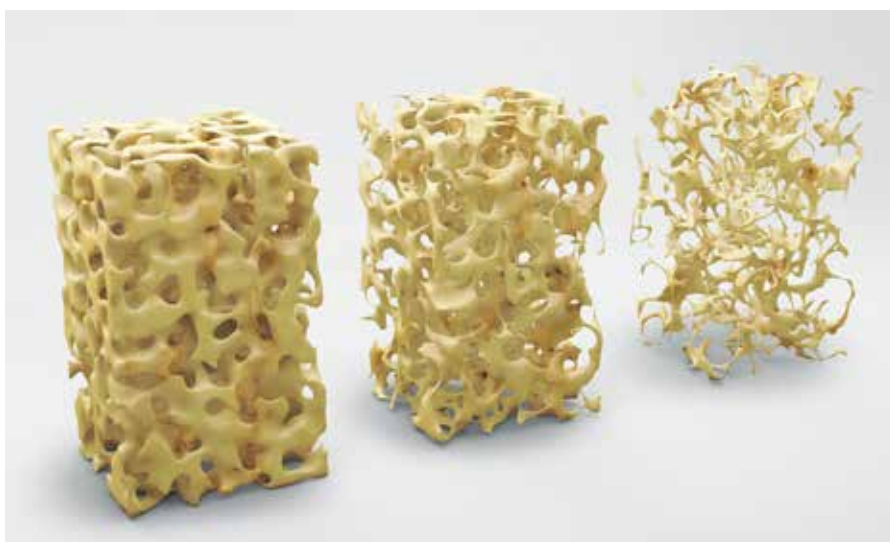
The proposed legislation would limit transgender teenagers’ access to care and interfere with the ability of healthcare providers, transgender teenagers, and their families to deliver treatment options for each individual.

The Endocrine Society’s Clinical Practice Guideline recommends not starting sex hormone treatment until a teenager is capable of giving informed consent. Supervising medical professionals need to determine each individual’s decision-making competence, but this usually occurs around age 16. The guideline advises delaying gender-affirming genital surgery until an individual is at least 18 years old or of legal age in his or her country.

In some cases, healthcare providers use medications to delay early puberty. This gives individuals experiencing gender incongruence more time to explore their options and live their gender identity before they undergo hormone treatment.

The South Dakota bill would have banned this reversible treatment, even though research has found it improves psychological functioning in transgender teenagers.

Endocrine Society Updates Osteoporosis Clinical Practice Guideline



The Endocrine Society last month announced an update to its osteoporosis Clinical Practice Guideline to include recommendations for romosozumab, a new medication that was approved last year to treat postmenopausal women at high risk of fracture.

The U.S. Food and Drug Administration approved romosozumab in April 2019, a month after the guideline was published.

“We felt it was important to update our guideline to reflect the newest, most effective medication options available for patients with osteoporosis,” says Clifford J. Rosen, MD, director of the Center for Clinical and Translational Research at the Maine Medical Center Research Institute in Scarborough. Rosen chaired the writing committee that developed the guideline.

“Romosozumab offers promising results for postmenopausal women with severe osteoporosis or who have a history of fractures,” Rosen says. “It does, however, come with a risk of

heart disease, so clinicians need to be careful when selecting patients for this therapy.”

New recommendations from the guideline include:

- ▶ Postmenopausal women who have a very high risk of fracture can be treated with romosozumab for up to one year, but women with a high risk of heart disease and stroke should not be considered for treatment with romosozumab, pending further studies.
- ▶ Women who have been on romosozumab for a year should be treated with antiresorptive osteoporosis therapies to protect their bone health.

“Pharmacological Management of Osteoporosis in Postmenopausal Women: An Endocrine Society Guideline Update,” was published in *The Journal of Clinical Endocrinology & Metabolism*, online ahead of print.

Guimaraes Receives Ulhoa Cintra Laureate Award

The Brazilian Society of Endocrinology and Metabolism (SBEM) last month honored Valeria Cunha Guimaraes, MD, PhD, FACE, a clinical endocrinologist, with the Ulhoa Cintra Laureate Award, one of the most prestigious laureate awards in the country.

“I am very, very happy [to receive this award],” Guimaraes says. “Recognition from your peers, of good work done, is priceless.”

Guimaraes was honored for her tenure as the former president of SBEM, which the Society views

as a milestone. “Your professionalism, and your technical and administrative skills enabled SBEM to grow considerably, setting a high standard for future Boards to emulate,” SBEM wrote in a letter to Guimaraes, which she shared with *Endocrine News*. “Your continued participation in and support of the Society further reinforce your nomination for the award. If SBEM is better today, it is in large part due to your excellence and expertise.”

The award will be presented at SBEM’s annual meeting in September. **EN**



Presenting the Ulhoa Cintra Laureate Award to Valeria Cunha Guimaraes, MD, PhD, are (l to r): Neuton Dornelles, chair of CBEM 2020; Guimaraes; SBEM president Rodrigo Moreira; and Cesar Luiz Boguszewski, MD, PhD.



BY DEREK BAGLEY
Senior Editor

FDA Approves First Treatment for Thyroid Eye Disease



“

The FDA approval of TEPEZZA is momentous for the TED community and has the potential to change the treatment paradigm for TED — providing new hope for people who are living with this horrible, vision-threatening disease.

”

In January, *Endocrine News* reported on the possible upcoming availability of teprotumumab as a promising treatment for thyroid eye disease (TED), a serious, progressive and vision-threatening rare autoimmune disease that is associated with proptosis (eye bulging), diplopia (double vision), blurred vision, pain, inflammation, and facial disfigurement. Up to 50% of patients with Graves' disease will develop TED. However, TED is a distinct disease and can develop even in people who do not have Graves'.

Later that month, the FDA approved teprotumumab to treat TED, which means the drug could be available in the U.S. within weeks. Horizon Therapeutics is marketing the drug as TEPEZZA, a fully human monoclonal antibody (mAb) and a targeted inhibitor of the insulin-like growth factor-1 receptor (IGF-1R) that is administered to patients once every three weeks for a total of eight infusions.

The FDA approval of TEPEZZA comes ahead of the Prescription Drug User Fee Act (PDUFA) goal date of March 8, 2020. The medicine received Priority Review, Orphan Drug, Fast Track, and Breakthrough Therapy designations from the FDA.

“The FDA approval of TEPEZZA is momentous for the TED community and has the potential to change the treatment paradigm for TED — providing new hope for people who are living with this horrible, vision-threatening disease,” says Raymond Douglas, MD, PhD, director of the Orbital and Thyroid Eye Disease Program, Cedars-Sinai Medical Center and co-principal investigator of the TEPEZZA Phase 3 confirmatory clinical trial. “Today's news brings forward a medicine for patients that targets the underlying biology of the disease and has been shown to significantly improve eye bulging and

double vision, which are the most debilitating aspects of the disease.”

The FDA approval of TEPEZZA is supported by a robust body of clinical evidence, including statistically significant, positive results from the Phase 2 clinical study, as well as the Phase 3 confirmatory clinical study OPTIC (Treatment of Graves' Orbitopathy [Thyroid Eye Disease] to Reduce Proptosis with Teprotumumab Infusions in a Randomized, Placebo-Controlled, Clinical Study). The OPTIC study found that significantly more patients treated with TEPEZZA (82.9%) had a meaningful improvement in proptosis (≥ 2 mm) as compared with placebo patients (9.5%) ($p < 0.001$) without deterioration in the fellow eye at week 24.

Additional secondary endpoints were also met, including a change from baseline of at least one grade in diplopia (double vision) in 67.9% of patients receiving TEPEZZA compared to 28.6% of patients receiving placebo ($p = 0.001$) at week 24. In a related analysis of the Phase 2 and Phase 3 clinical studies, there were more patients with complete resolution of diplopia among those treated with TEPEZZA (53%) compared with those treated with placebo (25%). The majority of adverse events experienced with TEPEZZA treatment were graded as mild to moderate and were manageable in the trials, with few discontinuations or therapy interruptions.

Horizon will conduct a post-marketing study to evaluate safety in a larger patient population as was discussed at the Dermatologic and Ophthalmic Drugs Advisory Committee (DODAC) FDA Advisory Committee meeting on December 13, 2019, where the committee voted unanimously (12–0) that TEPEZZA demonstrated a positive benefit risk profile. This study will also evaluate retreatment rates relative to how long patients receive the medicine.



“

We're learning that when we eat is just as important as how much we eat. A calorie is not just a calorie. Calories consumed between meals or at odd hours become stored as fat, and that is the recipe for poor health.

”

Study Links Dopamine, Biological Clock to Snacking, Overeating, and Obesity

The pleasure center of the brain and the brain's biological clock are linked, and high-calorie foods — which bring pleasure — disrupt normal feeding schedules, resulting in overconsumption, according to a study recently published in *Current Biology*.

Researchers led by Ali Güler, PhD, a professor of biology at the University of Virginia, point out that widespread availability of energy-dense, rewarding foods is correlated with the increased incidence of obesity across the globe and that overeating during mealtimes and unscheduled snacking disrupts timed metabolic processes, which further contribute to weight gain. “The neuronal mechanism by which the consumption of energy-dense food restructures the timing of feeding is poorly understood,” the authors write.

Here, Güler and his team demonstrate that the part of the brain that produces the chemical dopamine and the brain's separate biological clock that regulates daily physiological rhythms are linked. The researchers mimicked the 24/7 availability of a high-fat diet in mice and showed that anytime snacking eventually results in obesity and related health problems.

Güler's team found that mice fed a diet comparable to a wild diet in calories and fats maintained normal eating and exercise schedules and proper weight. But mice fed high-calorie diets laden with fats and sugars began “snacking” at all hours and became obese. Additionally, so-called “knockout” mice that had their dopamine signaling maintained a normal eating schedule and did not become obese, even when presented with the 24/7 availability of high-calorie feeds. “These findings define a connection between the reward and circadian pathways in the regulation of pathological calorie consumption,” the authors write.

According to Güler, other studies have shown that when mice feed on high-fat foods between meals

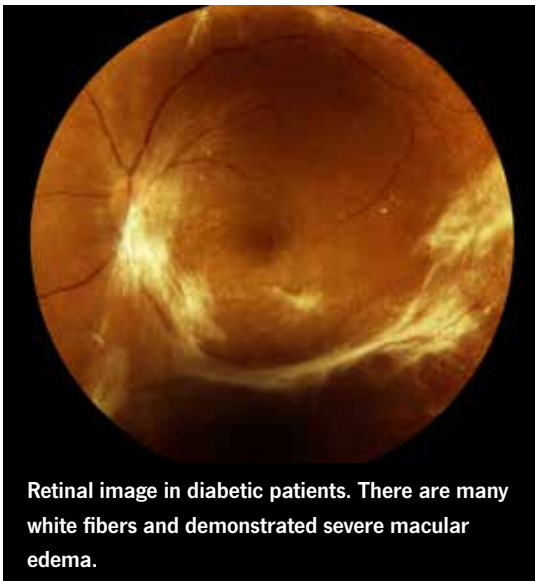
or during what should be normal resting hours, the excess calories are stored as fat much more readily than the same number of calories consumed only during normal feeding periods. This eventually results in obesity and obesity-related diseases, such as diabetes.

Güler says in a statement that the human body, through thousands of years of evolution, is hard-wired to consume as much food as possible as long as it's available. He said this comes from a long earlier history when people hunted or gathered food and had brief periods of plenty, such as after a kill, and then potentially lengthy periods of famine. Humans also were potential prey to large animals and so actively sought food during the day and sheltered and rested at night.

Additionally, prior to the advent of our electricity-powered society, people started the day at dawn, worked all day, often doing manual labor, and then went to sleep with the setting of the sun, he continues. Human activity, therefore, was synchronized to day and night. Today, we are working, playing, staying connected — and eating — day and night. This, Güler says, affects our body clocks, which were evolved to operate on a sleep-wake cycle timed to daytime activity, moderate eating, and nighttime rest.

“This lights-on-all-the-time, eat-at-any-time lifestyle recasts eating patterns and affects how the body utilizes energy,” he says. “It alters metabolism — as our study shows — and leads to obesity, which causes disease. We're learning that when we eat is just as important as how much we eat. A calorie is not just a calorie. Calories consumed between meals or at odd hours become stored as fat, and that is the recipe for poor health.”

The National Institute of General Medical Sciences and University of Virginia Brain Institute funded the research.



Clinical Trial to Test Port Delivery System with Ranibizumab in Patients with DME

A new Phase 3 clinical trial is investigating the Port Delivery System (PDS) with ranibizumab in people with diabetic macular edema (DME). The PDS is an investigational refillable eye implant designed to continuously release a customized formulation of ranibizumab over a period of months. Genentech and Roche are funding the study.

Pagoda is a Phase III, multicenter, randomized, active-comparator, non-inferiority study that will evaluate the efficacy, safety, and pharmacokinetics of the PDS for the treatment of DME. In total, nearly 550 patients with DME will be randomized to receive either the PDS 100 mg/mL refilled at fixed six-month intervals or monthly intravitreal injections of ranibizumab 0.5 mg. The primary endpoint of Pagoda is the change in Best-Corrected Visual Acuity (BCVA) from baseline averaged over weeks 48 and 50. The PDS is an investigational drug delivery system that includes an implant, ancillary devices, and ranibizumab. The PDS allows continuous delivery of ranibizumab and thus is intended to reduce the burden of frequent eye injections by allowing people with DME to potentially go several months before needing a refill of the implant and to address under-treatment that could lead to vision loss.

“We are excited that patient enrollment in Pagoda has begun. This is the first clinical trial to investigate the PDS in DME, a serious retinal condition that affects nearly 750,000 people in the U.S. and is the leading cause of blindness among working aged adults,” says Anne Fung, MD, global development lead of the PDS at Genentech and a practicing retina specialist in San Francisco. “While we have effective therapies for DME, the treatment burden on patients can be high, with as often as monthly injections. With the PDS, our hope is that these patients may be able to go up to six months between treatments.”

The PDS is also being studied in patients with wet age-related macular degeneration (AMD) in the Phase 3 Archway trial, which recently completed patient enrollment. The Archway trial was initiated based on the results of the Phase 2 Ladder study, announced last year, which showed that nearly 80% of patients in the PDS 100 mg/mL arm were able to go six months or longer between the implant of the device and the first required refill. ^{EN}



“

While we have effective therapies for DME, the treatment burden on patients can be high, with as often as monthly injections. With the PDS, our hope is that these patients may be able to go up to six months between treatments.

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Photo: lunamarina/Shutterstock.com

ENDO 2020

San Francisco, California
March 28 – 31, 2020

With more than 7,000 attendees, more than 2,000 abstracts, and more than 200 sessions, **ENDO 2020** 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 2020** 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 preconference events.

www.endocrine.org/endo2020

Miami Thyroid Oncology Symposium

Miami, Florida

March 13 – 14, 2020

Organized by the Miami Cancer Research Center, the 4th Annual Miami Thyroid Oncology Symposium will begin with a course on the essentials of clinical genomics that aims to provide a strong foundation for practicing physicians and help them understand the evolving role of clinical molecular testing. There will be an oral/poster abstract presentation session, followed by an expert panel discussion on the first day, which will provide a platform for young physicians in training and all

academic and practicing physicians to present and discuss their research work and clinical experience.

www.miamicancerresearch.org

Clinical Endocrinology 2020

Boston, Massachusetts

March 21 – 25, 2020

Harvard Medical School has selected more than 40 faculty and outside experts to present up-to-date, evidence-based approaches to endocrine problems. This course will cover many topics including osteoporosis, diabetes, hypercholesterolemia, pituitary tumors, menopause, thyroid abnormalities, and

reproductive dysfunction, and a broad spectrum of other clinical problems in endocrinology.

www.endocrinology.hmscme.com

Endocrine Fellows Series: Type 1 Diabetes Care and Management

San Francisco, California

March 24 – 26, 2020

Fellows Series: Type 1 Diabetes Care and Management is a comprehensive conference for adult and pediatric endocrine fellows interested in type 1 diabetes. A preconference event to **ENDO**, the unique and highly sought after program offers an opportunity to learn from leaders

in the field through interactive sessions, small group discussions, and hands-on learning. The curriculum provides comprehensive education not typically taught in fellowship and opportunities to connect with thought-leaders and peers.

www.endocrine.org/meetings-and-events/fellows-conferences/t1d-fellows

The 4th International Symposium on the Calcium Sensing Receptor (CaSR)

San Francisco, California
March 26 – 27, 2020

This symposium will bring together basic, translational, and clinical scientists from different disciplines who study the biochemistry, molecular biology, cell biology, physiology, and pathophysiology of the CaSR and clinical disorders of CaSR function. The program will include lectures, oral abstract presentations, poster discussion sessions, and forums for young investigators to meet senior experts.

www.ncire.org/casrsymposium2020



Photo: Dana Fleming/Shutterstock.com

American Association of Endocrine Surgeons 41st Annual Meeting

Birmingham, Alabama
April 4 – 6, 2020

The American Association of Endocrine Surgeons (AAES) 41st Annual Meeting will feature symposia on wellness, diversity and inclusion, business in surgery, interesting case presentations, and a new quick shot poster session to allow more presenters to the podium. Additionally, the AAES will again host the Advanced Endocrine Surgery Course as an opportunity to review current standards in management of complex endocrine diseases, while engaging on a personal level with nationally recognized authorities in the field.

www.endocrinesurgery.org

INTERNATIONAL ITINERARY

17th Biennial Congress of the Asian Association of Endocrine Surgeons – AsAES 2020

Melbourne, Australia
March 5 – 7, 2020

AsAES 2020: Controversies in Endocrine Surgery will focus on key areas of endocrine surgery including benign and malignant thyroid disease, parathyroid disease, and management of adrenal pathology. Partnering with the Endocrine Society of Australia – ESA, the symposia will offer a combined multidisciplinary program on Day 2, which will focus on areas of combined interest to both endocrine surgeons and endocrinologists.

www.asaes.com

EMBO EMBL Symposium Inter-Organ Communication in Physiology and Disease

Heidelberg, Germany
March 15 – 18, 2020

This symposium will showcase how sophisticated genetic approaches are transforming the understanding of physiology and reveal emerging paradigms of inter-organ communication relevant to metabolic homeostasis and disease. The conference aims to provide a high visibility platform to scientists who use modern molecular genetic tools to discover inter-organ communications to illustrate how much our molecular and genetic understanding of whole-organism physiology has progressed in the past 20 years.

www.embo-embl-symposia.org

ECE 2020: 22nd European Congress of Endocrinology

Prague, Czech Republic

May 2 – 26, 2020

The European Congress of Endocrinology is the European Society of Endocrinology's premier event, attracting over 3,500 international delegates each year across the spectrum of endocrinology. The event is a showcase of the best of science and clinical practice across the fields of endocrinology and metabolism, and aims to deliver to all audiences interested in the field, whether you are an experienced consultant, a scientist, or a nurse, and whether you are well advanced in your career or just starting out.

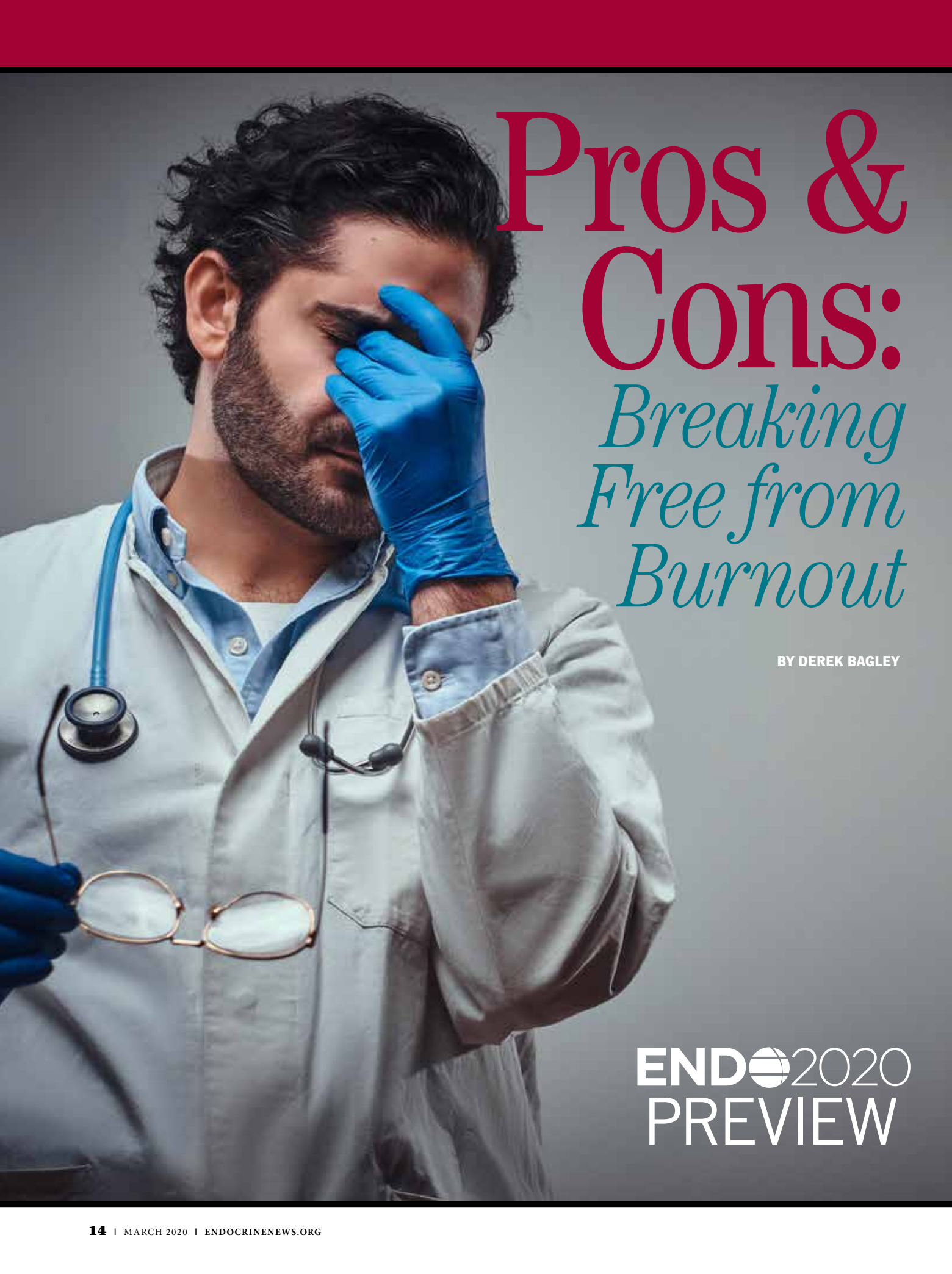
ece2020@endocrinology.org

ICE 2020: 19th International Congress of Endocrinology

Buenos Aires, Argentina
October 4 – 7, 2020

19th International Congress of Endocrinology (ICE 2020), 4th Latin American Congress of Endocrinology (CONLAEN) and 13th Congress of the Argentine Federation of Endocrinology Societies (FASEN) is organized by MCI Group - Argentina. Topics to be discussed include: Big data and its impact in health, human diseases, artificial intelligence and big data mining; thyroid cancer diagnosis and treatment; advances in pheochromocytomas and paragangliomas; the tsunami of diabetes in lower and middle income countries; preserving reproduction in cancer patients; and so much much more.

www.ice-2020.com



Pros & Cons:

Breaking Free from Burnout

BY DEREK BAGLEY

ENDO2020
PREVIEW



Stanley Andrisse, PhD, MBA, has a remarkable story that has taken him from a prison cell to Johns Hopkins University. He knows firsthand the effects of burnout and how to overcome it. At **ENDO 2020**, he will share his tips on avoiding burnout, how he achieves an ideal work/life balance, as well as his own amazing journey.

Stanley Andrisse, PhD, MBA, is a busy man. In addition to his duties as adjunct assistant professor of medicine at Johns Hopkins University in Baltimore, Md., and assistant professor of medicine at Howard University in Washington, D.C., he's the executive director of From Prison Cells to PhD, a nonprofit aimed at transforming the lives of people with criminal convictions through advocacy and mentoring. Oh, and he's a new father to a baby girl.

All of these responsibilities can lead to some extremely hurried and hectic days, which unfortunately, can lead to burnout — a phenomenon from which endocrinologists are definitely not immune. But Andrisse has found a way to balance his professional and personal obligations and not just go through the motions, but thrive and inspire others, which led to his being invited to speak at **ENDO 2020** in San Francisco. “I successfully balance more than the average academic,” Andrisse says. “I am a scientist, professor, business owner who

runs a nonprofit, and a new father. I think I was asked to do this session because I successfully balance those things well.”

Andrisse's presentation, titled “How to Get Your Groove Back! Resilience and Work Life Balance,” will be held Saturday, March 28, from 9:45 am to 11:15 am (see box below for more information). *Endocrine News* was able to catch up with Andrisse to get a sneak peek of his talk, hear a little about his incredible story, and learn what drives him.

Endocrine News: Your story is quite amazing. Can you give the readers a little overview of what brought you to choosing endocrinology as your career?

Stanley Andrisse: Growing up in Ferguson, Mo., I started making poor decisions in my early teens. By my early 20s, my poor decisions had exponentially multiplied, and I found myself sitting in front of a judge facing 20 years to life for drug trafficking

See it at **ENDO 2020!**

Resiliency and Managing Burnout • Saturday, March 28, 2020, 9:45 AM – 11:15 AM

This session will teach strategies to tackle burnout and achieve life balance. Attendees will learn techniques to increase resiliency and practices to alleviate stress, including mindfulness training and other coping skills. Aside from Andrisse, the faculty will include Deborah T. Rana, MSc, MD, University of California San Diego School of Medicine, La Jolla, Calif., and Stuart Slavin, MD, MEd, Accreditation Council for Graduate Medical Education, Chicago, Ill.



charges. The prosecutor classified me as a prior and persistent career criminal and stated that I had NO hope for change. The judge sentenced me to 10 years in a maximum-security prison.

Prison was an experience like no other I had ever encountered. I found myself challenged with a strong desire to change but faced with an environment non-conducive for transformative change. From poor institutional structure and policies to individual institutionalized thinking and behaviors, I battled on an ever-reminding DAILY basis to retain and maintain my humanity.

My dad's health plummeted while I was in prison. Through phone calls and letters, I'd hear that piece by piece, they

amputated his lower limbs up to his torso. Before I could reconcile our relationship, he fell into a coma and lost his battle with type 2 diabetes. I was devastated. I transformed that into inspiration. Upon release, after several rejections, I was accepted into a PhD program, completed my PhD/MBA simultaneously, and became a medical scientist and impactful leader at Johns Hopkins Medicine doing diabetes research. Education was transformative.

EN: Tell me about balancing those two tracks.

SA: I've stared down some very life-threatening situations eye to eye. Why would I be afraid of a dissertation committee? Or a dual degree? When I was given the second chance, I was ready for change. I was hungry for change.

EN: How does your endocrinology training inform your work as executive director of From Prison Cells to PhD?

SA: Many people in prison are suffering from diabetes and metabolic disease. Some studies indicate that the stress level in prison may cause higher cortisol levels similar to a pseudo Cushing's disease. I am able to provide insights on health to our P2P program participants.

“ I successfully balance more than the average academic. I am a scientist, professor, business owner who runs a nonprofit, and a new father. I think I was asked to do this session because I successfully balance those things well.”

— STANLEY ANDRISSE, PHD, MBA, ADJUNCT ASSISTANT PROFESSOR OF MEDICINE, JOHNS HOPKINS UNIVERSITY, BALTIMORE, MD.; ASSISTANT PROFESSOR OF MEDICINE, HOWARD UNIVERSITY, WASHINGTON, D.C.; EXECUTIVE DIRECTOR, FROM PRISON CELLS TO PHD

My PhD training also provides me the ability to think strategically and critically about solving problems and asking effective questions to the issues with the criminal justice system.

EN: You're not only helping people get education, but you're training future doctors as well. Tell me about the experience of helping shape all these minds.

SA: Training and mentoring are the absolute best part of what I do. Scientifically, I have mentored over 50 trainees, most of whom are underrepresented minorities and all of which have moved on to gaining a PhD or MD — or on their way.

In terms of my P2P program, we connect with over 100 currently and formerly incarcerated people per year. I am an intimate part of each and every one of their journeys. We've successfully helped over 95% move into higher education.

EN: Congratulations on being a new father! How has that new arrival changed your daily routine?

SA: Since I am the early bird between my wife and I, I wake up in the night to care for our daughter. Fortunately, aside from the few times when she has been sick, our angel baby has slept all through the night for all 15 months of her life.

My daily routine is changed in that I work from home from 4:00 to 7:00 am to help my wife get our daughter ready for day care. I used to go into work at 4:30 am.

Although our daughter does not wake up, my body is still on call all through the night, so I am half awake. Thus, I am more tired than I used to be.

EN: If I may, have you experienced burnout yourself? Or have you known someone who has? How did you or they deal with it?

SA: I've felt overwhelmed at times, but not quite burnout as I have seen in some of my colleagues. I stay away from burnout by maintaining a strict fitness, diet, and mindfulness routine. I have done this most of my life as I was a college athlete. My wife and I work out together, so it doubles as "quality time" and triples as time away from the little one as our gym has a day care.

Work-life Balance:

- 1) Self-awareness. Knowing your capacity?
- 2) Self-management. Track time. Evaluate priorities (urgent vs. important).
- 3) Decompress mechanisms. Mine is consistent exercise.
- 4) Understandings with family in advance and revisited.

EN: What should attendees take away from the session?

SA: Resilience is buildable. Come learn how to build resilience! 



AT A GLANCE

- ▶ Burnout is an unfortunate phenomenon that can affect physicians and researchers, including endocrinologists.
- ▶ Stanley Andrisse, PhD, MBA, an endocrinologist who is also the executive director of a nonprofit (and a new father), has found a way to balance his professional and personal responsibilities and avoid burnout.
- ▶ Andrisse will speak at **ENDO 2020** about how he stays motivated and "getting your groove back."

EMBRACING Authenticity:



Celebrating 25 Years of Diversity & Inclusion

As the Endocrine Society's Committee on Diversity and Inclusion (CoDI) anticipates its 25th anniversary celebration during **ENDO 2020**, past and current members are reflecting on the committee's impact on the diversification of the specialty.

Endocrine News caught up with past chair Rocio Pereira, MD, of Denver Health, and current members: Carlos Arguello, MD, of the University of Alabama at Birmingham; Bryan Wilson, PhD, of Merck Research Laboratories; and Marina Fernandez, PhD, of the National Scientific and Technical Research Council (CONICET) in Argentina, to discuss how CoDI has changed the minds and lives of many across the globe.

Endocrine News: In what ways do you think diversity and inclusion are important to the Society's future and the future of endocrinology?

Rocio Pereira: To continue advancing its mission to improve health worldwide and serving its global membership, the Society will need to maintain its focus on diversity and inclusion efforts, encourage increased representation of under-represented minorities

ENDO 2020 in San Francisco marks a quarter century of the Endocrine Society's diversity initiatives.

To mark this momentous occasion, *Endocrine News* spoke with members whose careers have been enhanced by their involvement in the Society's diversity program.

BY GLENDA FAUNTLEROY SHAW

in leadership, and continue work addressing health disparities. Diversity and inclusion require representation of individuals from different backgrounds and with different viewpoints in all aspects of the Society's work.

Carlos Arguello: I believe the strength of an organization such as the Endocrine Society resides in the active involvement of its members. The constituency of the Society is quite diverse, and each of us has something to offer, to contribute. The practice of medicine has evolved over time, and our specialty is not exempt from these changes. Many challenges lie ahead. The Society is positioned to lead the path to shape the future of our discipline. As an organization, the Society's future will continue to be bright as long as it continues to engage its diverse constituency and make them feel how valuable they are for the life of our organization.

EN: What has been the impact of the Society's diversity and inclusion efforts on your professional and personal life?

RP: Participating in the Society's diversity and inclusion efforts has given me the opportunity to develop as a leader, set up collaborations, and form friendships.

CA: Our life is enriched by any new experience from which we all should learn and grow. To collaborate with incredible people, to feel their passion and commitment, to make our organization more inclusive was invigorating and refreshing. I will continue to carry on the efforts, to foster diversity and inclusion in any opportunity I encounter.

BW: The Society's diversity and inclusion efforts created a culture that celebrated my uniqueness as a scientist and



Bryan Wilson: Diversity and inclusion within the Society establishes a safe space for mutual understanding and getting to know others. Everyone has unique experiences and plays a role in cultivating success on an individual and society level. Diversity and inclusion widen the lens through which we view ourselves and others, allowing us to develop in new ways.

Marina Fernandez: As a member of the international community, a basic scientist and a Latin American, I think it is crucial to bring all the different voices and perspectives to the table when we talk about the Endocrine Society, endocrinology, and science in general. It is important to teach others about how diverse teams bring different perspectives and how to interact respecting these differences.

professional. Given my very unique career path, it provided the support I needed to fully blossom, while embracing my authenticity.

MF: My first encounter with the Endocrine Society was in 2008, when I was selected as a participant of the International Endocrine Scholars Program. This program helped me get my postdoctoral position with Dr. Nicholas Webster at University of California San Diego, and I've been a part of the Society ever since. Another activity sponsored by the Society that I like a lot is the Mentoring and Poster Reception [at **ENDO**] where trainees can talk with mentors about different topics like working abroad, work-life balance, opportunities after graduation, and many others. I was able to participate



“Diversity and inclusion require representation of individuals from **different backgrounds and with different viewpoints** in all aspects of the Society’s work.”

— ROCIO PEREIRA, MD, DENVER HEALTH, DENVER, COLO.

in this activity as a mentor and poster judge, giving me the opportunity to interact with many other scientists from the U.S. and around the world. Also, a very exciting event held at **ENDO 2019** was the LGBTQ+ and allies’ reception that was very popular, and I hope it will become a regular activity at future **ENDO** conferences.

EN: Has your view of diversity and inclusion changed over time as a result of your involvement in the D&I committee and programs?

RP: When I joined the Minority Affairs Committee (MAC) in 2005, the focus was on increasing ethnic/racial diversity in endocrinology and within the Society by implementing programs for groups that were underrepresented in medicine in the U.S. (black, Hispanic/Latino, and Native American). During my tenure as chair of the MAC, and under the leadership of former Society President Janet Hall, the committee launched an effort to increase awareness of endocrine disparities. At the end of my time as chair, the committee transitioned to the Committee on Diversity and Inclusion, broadening its scope to

include support for LGBTQ members and research to address health disparities related to sexual orientation or gender. While we have come a long way from where we started when MAC was formed 25 years ago, we still have a long way to go to get to where the make-up of the clinical endocrine workforce is reflective of that of patients with endocrine disease, or to making true progress to eliminating health disparities.

CA: To me, diversity is a cultural notion not limited to race, ethnicity, or gender. Given my background, my view of diversity and inclusion has not really changed. My involvement in the committee has reaffirmed my belief that diversity makes us strong and inclusion gives us power.

EN: How does working with leadership from diverse backgrounds bring value to the Society?

RP: Working with leadership from diverse backgrounds makes the Endocrine Society stronger and enables it to address the needs of its diverse membership.



“As an organization, the Society’s future will continue to be bright as long as it continues to engage its diverse constituency **and make them feel how valuable they are for the life of our organization.**”

— CARLOS ARGUELLO, MD, UNIVERSITY OF ALABAMA AT BIRMINGHAM, BIRMINGHAM, ALA.



“The Society’s diversity and inclusion efforts created a culture that celebrated my uniqueness as a scientist and professional. **Given my very unique career path, it provided the support I needed to fully blossom, while embracing my authenticity.**”

— BRYAN WILSON, PHD, MBA, REGIONAL MEDICAL SCIENTIFIC DIRECTOR FOR CARDIOVASCULAR SCIENCES, MERCK RESEARCH LABORATORIES, NEW ORLEANS, LA.

CA: Although each of us have our own “thoughts and beliefs,” it has been invaluable to experience how working together despite our perceived “differences” and biases we can amalgamate ways and craft ideas toward common goals to strengthen the value of our organization.

BW: Working with leadership from diverse backgrounds brings value because it highlights the importance of having unique perspectives. More importantly, it creates a heightened sense of responsibility to create a culture that celebrates these differences.

MF: It gives different perspectives, as our way of seeing the world is immersed in our mental models. Before, it was considered that science belonged to a particular group of people. Nowadays, it is becoming clearer that the more diverse the team, the more interesting the work the team can do.

EN: Are you excited about our 25-year celebration of diversity and inclusion at **ENDO 2020**?

RP: I feel incredibly privileged to have contributed to the Society’s diversity and inclusion efforts for the past 15 years and am very excited to celebrate our 25 years at **ENDO 2020**.

CA: This is a milestone that we all should celebrate and be proud of. It is a reaffirmation of the Society’s dedication and vision for equality. I encourage all members who will attend **ENDO 2020** to participate in the commemorative activities.

MF: Right now, the economy in Argentina is complicated as we don’t have much funding, especially for travel, but I am trying my best to get money to travel to San Francisco to share this celebration with all of you. **EN**



“Before, it was considered that science belonged to a particular group of people. **Nowadays, it is becoming clearer that the more diverse the team, the more interesting the work the team can do.**”

— MARINA FERNANDEZ, PHD, NATIONAL SCIENTIFIC AND TECHNICAL RESEARCH COUNCIL (CONICET), BUENOS AIRES, ARGENTINA

ENDO2020

Celebrating 25 Years of Diversity

Join us as we commemorate 25 years of commitment to increasing diverse representation, promoting an inclusive global community, and addressing equity concerns within endocrinology.



Participate in these 25 Years of Diversity Celebration events at ENDO 2020:

Saturday, March 28, 2020

Health Disparities Poster Previews 11:30AM – 12:15PM

These short presentations will highlight the endocrine-related health disparities research of our early-career members. Five top-scored poster abstracts in this research area will be previewed in the Science Hub on the Expo Hall floor.

LGBTQ and Allies Reception 4:15PM

Anyone interested in connecting with endocrine professional and advocates in the lesbian, gay, bisexual, and transgender community should attend this networking reception.

Sunday, March 29, 2020

Lessons Learned from the History of Identifying and Addressing Health Disparities in Endocrinology and Diabetes 8:00AM

Learn more about the emergence of research showing dramatic racial

and ethnic disparities in endocrine-related disorders such as diabetes at the Clark T. Sawin Memorial History of Endocrinology Lecture. This lecture will consider the biological basis and clinical risk factors of endocrine health disparities and factors that help improve health indicators and potentially close the gap between racial and ethnic groups.

Breaking Barriers to Care 1:45PM

This symposium is designed to explore health disparities in Glomerular filtration rate, unconscious bias in clinical care, and how to increase patient participation in clinical trials.

25 Years of Diversity Celebration and Reception 9:15AM

Join us at the 25 Years in Diversity main event open to all registered ENDO attendees. The celebration will follow a poster session that allows trainees of underrepresented groups to showcase their research. This will be an evening of networking, inspiration, and fun with our global community of endocrinologists.

Monday, March 30, 2020

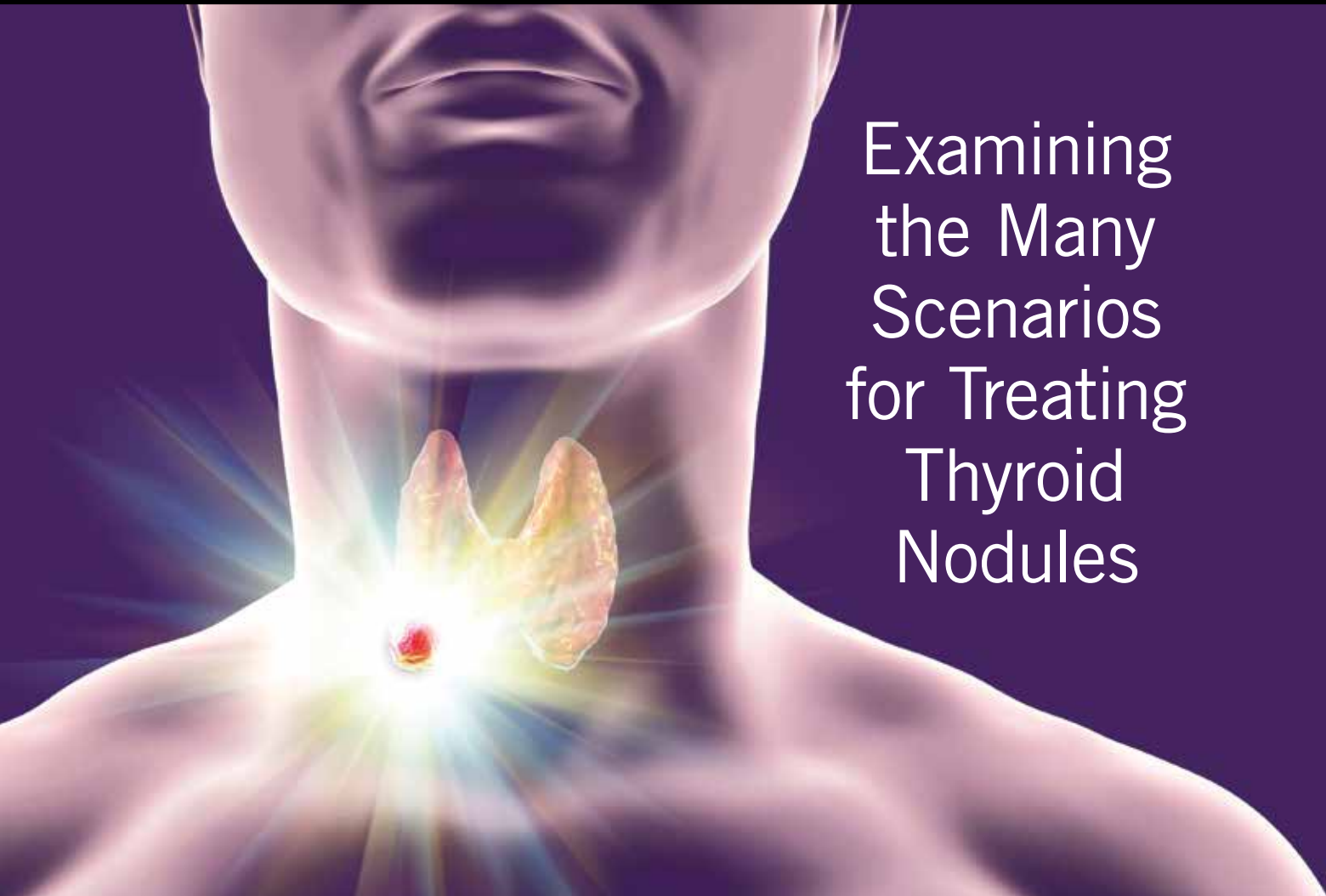
How Do We Confront Disparities in Obesity Treatment? 9:15AM

This symposium will explore physiological, clinical, social, and behavioral aspects of disparities in obesity and obesity treatment, including the physiological and mechanistic factors that drive an increase in cardiometabolic comorbidities, limitations to lifestyle intervention to treat obesity, and the socioeconomic impact on obesity.

These sessions are just a tiny fraction of the dozens of options available to attendees that cover a vast range of topics in patient treatment outcomes, basic science, and clinical research.

BY KELLY HORVATH

BEASTNODE:



Examining
the Many
Scenarios
for Treating
Thyroid
Nodules

An engaging ENDO 2020 session featuring a panel of clinicians sharing their expertise in thyroid nodule management promises to be a must-see. Cases will be presented. Questions will be answered. And an unforgettable event awaits all attendees!



Later this month, leading experts, researchers, and the most respected clinicians in endocrinology will congregate in San Francisco for the much-anticipated **ENDO 2020**. As if the thought of attending this conference in a world-leading travel destination isn't temptation enough, one scheduled session is a can't-miss for thyroid specialists.

Mark your calendars for March 28, 2020, from 11:30 am – 1:00 pm because “Thyroid Nodule: Whack It, Zap It, or Leave It Alone?” promises to be lots of fun, predicts session moderator R. Michael Tuttle, MD, clinical director of the Endocrine Service at Memorial Sloan Kettering Cancer Center (MSKCC) in New York. Although “fun” isn't how **ENDO** sessions are typically described, this one breaks the mold thanks to its lively format — the name alone is a clue.

Tuttle explains that he and case presenter Sana Ghaznavi, MD, of the University of Calgary, in Alberta, Canada, who also happens to be a former trainee in Tuttle's thyroid cancer fellowship program at MSKCC, have selected five patient cases to put before a panel of four clinicians with expertise in thyroid management. It will be akin to **ENDO** master clinician sessions, in which Ghaznavi will present and Tuttle will moderate and facilitate discussion. Details of the cases — based on real cases seen in Tuttle's and Ghaznavi's practices — will be shared with the panelists in advance; the session, then, will consist of each expert walking through how he or she would approach the case and why. “This is not going to be a ‘stump the professor,’” Tuttle says. “This is going to be, tell them part of the story and then ask questions

about it, such as, ‘How are you thinking about this case?’ or ‘What are the things that we should be thinking about?’ They won't necessarily know all the questions up front, but this is not intended to be like a quiz — it's going to feel more like a conversation.”

Although panelists will receive case details in advance, the audience will have the benefit of hearing the cases presented by Ghaznavi. “As the case presenter, my job is to summarize a great deal of medical information about the cases in a succinct way,” she explains. “But more than that, it is to tell a story about the patient's medical journey and disease course and give clues into their values system and the person behind the disease. Every detail that we include (or leave out) is done to provoke the panelists and attendees to identify and discuss key issues in the case.”

Ghaznavi will close each case with a question to get the discussion started, and Tuttle will take it from there. “If you've ever heard him speak,” Ghaznavi says, “he is especially talented at moderating sessions, engaging the entire panel and audience, giving voice to differing opinions to balance the discussion, and even inciting a bit of controversy at times ... all while making people laugh! It should be a great show!”

“My favorite thing about the field of thyroid cancer is that it cannot be practiced in a vacuum. The best thyroid cancer management arises in a tight-knit team environment, with interdisciplinary cooperation, and by placing the patient’s goals and values at the center of decision making.”

— SANA GHAZNAVI, MD, UNIVERSITY OF CALGARY, ALBERTA, CANADA



Thinking Out Loud

A buttoned-up chat over coffee is clearly not what this session will be. The international panel comprises clinicians with geographic- and demographic-specific approaches, which guarantees variations in responses to Tuttle’s probing questions. Not only will approaches be different and interesting to mull over, but Tuttle wants to know what participants really think, which is not necessarily the same thing as the standard response. “We’re going to focus on what these clinicians do in their real clinical practice. Don’t give me the ivory tower answer; don’t quote 19 different studies — not interested. Tell me what you would do in your practice,” Tuttle says. He wants the in-real-time, think-out-loud response that reflects actual clinical decision making in the setting of seeing a patient with a thyroid nodule.

Tuttle will also pose questions in such a way that the audience gets the full 360° view of available options: “I might say, aside from what you really think, ‘I want you to make the case that you should definitely do a biopsy,’ then follow that up with, ‘Now, make the case that a biopsy is not necessary.’ I’ll often have them defend a position that they may not actually believe in so that they can kind of think on both sides of the fence,” he explains.

Tuttle hopes that, although the audience will not be asking questions, the unfolding discussion will nevertheless feel interactive and maybe even enlightening for them. “They’ll be

listening in to a seasoned group of experts talk through what are really common clinical issues. Audience members will probably think, ‘Oh right, I saw one of these last week,’ or, ‘That case is on my schedule for next week,’” Tuttle says. “We are not picking out rarities, but we are picking out what we think are challenging cases. Audience members might think they know the answer, but other answers will probably emerge from the panel that are different from the way they were trained.”

Ghaznavi further characterized the cases as involving areas of thyroid nodule management that are not so clear cut. “For the building of the cases, Dr. Tuttle and I worked together to pick three or four areas where there is slight controversy or a gray zone, either due to differences in opinions, approaches, or conflicting or evolving evidence in the literature,” she says. “Many of the cases are around topics for which our medical understanding is currently in flux, and practices are quite varied across the world.”

Session Goals

Tuttle has two clear goals for the talk on thyroid nodules: One, explore what is detectable versus what is actionable, and, two, perhaps illuminate other management approaches that a particular panelist might not otherwise have considered.

“Ideally, this is going to be very practical,” he says. “The audience should come away with a good understanding of the ways we think about when we should be actionable with

a thyroid nodule and when it's just detectable. My goal is to make this like listening to somebody who has lots of experience: What pearls or safety tips do they have, and what are the things to look out for and pay attention to?"

As the session name suggests, the overriding theme will be differentiating detectable from actionable, and, if actionable, is that action diagnostic, therapeutic, or observational? "Where we are in the fields of thyroid nodules and thyroid cancer, is that we now talk about what's detectable and what's actionable. We've got ultrasounds and CTs and biopsys and lots of ways to detect nodules or thyroid cancer, but we now understand that not everything we find needs to be biopsied, not everything needs to be treated. If it needs to be treated, sometimes it's a very minimalistic approach, and that's what I'm going to try to get the panelists to help us think through," Tuttle explains.

Ghaznavi agrees: "The cases were built to explore major themes in thyroid cancer management such as appropriate risk stratification, patient selection, and medical minimalist versus maximalist mentality. For a lot of the cases, the underlying question is often, 'what is your threshold for intervention (e.g., indications for biopsy, further surgery, or additional imaging, etc.) versus further monitoring?'"

Apropos of the second goal, she says, "This threshold will exist on a spectrum, and it will be valuable to get the panelists' insights into the factors they consider when deciding on a threshold for intervention."

As Ghaznavi presents a case, Tuttle is interested in what red flags, warning signs, and subtleties a panelist might see and how those would factor into practice-specific decision making. Hearing other people talk through a case might shed new light on why there's controversy in a certain area or on why a different way works. "If I do my job right," Tuttle says, "there will be a lot of variance in the responses that we get. These are real cases with real decision making and probably two or three different ways to appropriately manage. We want to explore these differences because we're an international society. It's interesting to see how things are done across the world."

Multiple Choice

In some ways, this session will represent a microcosm of the field of endocrinology, which is inherently collaborative. During the panel discussion, multiple views will arise, but each will, in some way, contribute to a way forward. Ghaznavi says, "My approach to decision making in thyroid cancer management is the same as my approach to many other things in life: Apply a cost-benefit analysis, and work together with others to find the best solution. My favorite thing about the field of thyroid cancer is that it cannot be practiced in a vacuum. The best

SEE IT AT ENDO 2020!

THYROID NODULE:

Whack It, Zap It, or Leave It Alone?

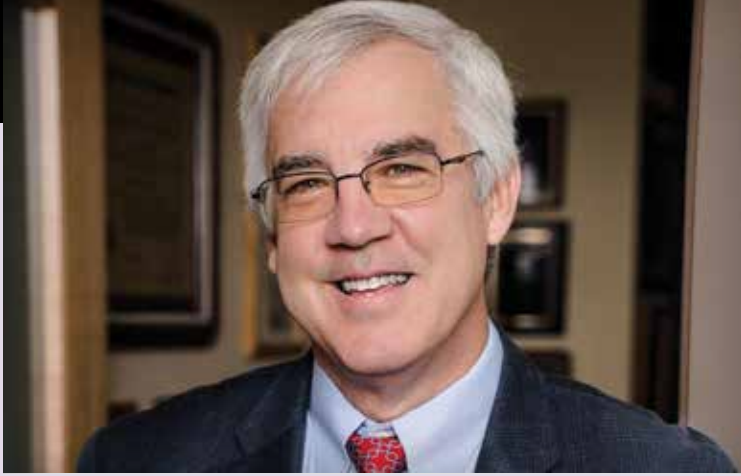
Saturday, March 28, 2020, 11:30 AM – 1:00 PM

This lively session will begin with the presentation of five based-on-real-life thyroid nodule cases by Sana Ghaznavi, MD, followed by a discussion with four panelists, Marius N. Stan, MD; Julie Ann Sosa, MD, MA, FACS; Mary C. Frates, MD; and Sebastiano Filetti, MD, which will be moderated by R. Michael Tuttle, MD.



AT A GLANCE

- ▶ "Thyroid Nodule: Whack It, Zap It, or Leave It Alone?" will explore expert perspectives on when to act on a detectable nodule versus when not to in commonly encountered but somewhat controversial scenarios.
- ▶ In general, these clinicians with expertise in thyroidology adopt a management approach that favors a high threshold for intervention coupled with an emphasis on individual patient factors and preferences, especially when evidence supports multiple possible approaches.
- ▶ Panelists will discuss their own experiences treating a variety of thyroid nodules in a manner that will be more like a conversation than a quiz.



“There’s probably not just one right answer. I often tell my patients, ‘We’re going to choose between two right answers; help me figure out for you which one of those right answers is most appropriate for you.’ Likewise, for most of the cases at the session, there will probably be at least two right answers, and we’ll have each person explore what right answer they would most likely do within their clinical context and clinical practice.”

— R. MICHAEL TUTTLE, MD, CLINICAL DIRECTOR, ENDOCRINE SERVICE, MEMORIAL SLOAN KETTERING CANCER CENTER, NEW YORK, N.Y.

thyroid cancer management arises in a tight-knit team environment, with interdisciplinary cooperation, and by placing the patient’s goals and values at the center of decision making,” she says.

Tuttle puts it this way: “There’s probably not just one right answer. I often tell my patients, ‘We’re going to choose between two right answers; help me figure out with you which one of those right answers is most appropriate for you.’ Likewise, for most of the cases at the session, there will probably be at least two right answers, and we’ll have each person explore what right answer they would most likely do within their clinical context and clinical practice,” he says.

So, whack it, zap it, or leave it alone? That depends, but it’s well worth taking a look. **EN**

Meet the Panelists

By and large, endocrinologists treating thyroid nodules seem to be adopting two general principles: Avoid overtreating and include the patient in deciding next steps, and the same is true for the session participants. Another common theme among them is how eagerly they anticipate discussing whether to “Whack It, Zap It, or Leave It Alone”!

Less Is More



Says surgeon Julie Ann Sosa, MD, MA, FACS, of the University of California, San Francisco, “As a thyroid surgeon, I would

say that there has been a general pivot toward a ‘less is more’ approach around many of our management approaches. I subscribe to these, along with a patient-centered stance that empowers the patient to arbitrate decision making where there is evidential equipoise.”

In her practice, Sosa frequently encounters patients with thyroid, parathyroid, and adrenal diseases, and her specific clinical and research interests are focused in thyroid cancer. She characterizes her approach to practice this way: “I try always to be evidence-based in my approach to thyroid disease, and especially so around hyperthyroidism, thyroid nodules, and thyroid cancer, as these are all areas where there are now robust practice guidelines. I have had the privilege to participate in the guidelines-writing process for the American

ENDO 2020 PREVIEW

Thyroid Association for hyperthyroidism, thyroid nodules, and differentiated thyroid cancer, so evidence and recommendations are always in the back of my mind," she says. Despite her scientific perspective, she is eager to debate, saying of the upcoming session, "I'm looking forward to it! It will be fun to share the stage with friends and distinguished colleagues, and I'm looking forward to spirited discussion and hopefully even a little provocative disagreement!"

Small Talk



Sebastiano Filetti, MD, of the Sapienza University of Rome in Italy, feels strongly that communication

is critical. "In general, all treatments should be part of patient-centered care. Decision making should be based on evidence, the patient's best interest, and the physician's professional judgment. Communication of potential risks and expected benefits needs to be frank, complete, and transparent. In this way, the final treatment plan can take into account patients' preferences and needs," he says of his approach. In his practice, thyroiditis and thyroid nodules are common, and both are frequent in the general population. "In the majority of the cases, nodules are benign disorders (or — even if malignant — are non-threatening) and require very little or no medicalization at all. For the same reason, there is no need to screen for such conditions," he says.

His focus on clear communication will extend to the upcoming **ENDO 2020** session: "I feel it will be an exceptional opportunity to spread some clear messages. First, all choices need to be clearly and completely discussed with the patients. Furthermore, there is an urgent need to reduce the resort to surgery for small disease and to reduce the extent of surgery, if it is done. Finally, we should reduce the number of biopsies; there is no need to biopsy small, subcentimeter, non-threatening nodules, even if suspicious for malignancy (except in case of lymph node metastases, or suspicion of extra-thyroidal extension)."

Getting the Picture



Mary C. Frates, MD, of the Brigham and Women's Hospital, Boston, Mass., a radiologist specializing in

ultrasound, brings the imaging versus the treatment perspective to the group. Her area of clinical research is the thyroid gland. "I will offer some thoughts regarding the imaging of thyroid disease, including benign and malignant nodules as well as thyroiditis," she explains. "I hope to emphasize for the audience which imaging findings should raise concern and require additional evaluation."

Treat the Patient, not Imaging Findings



Indeed, according to Marius N. Stan, MD, of the Mayo Clinic in Rochester, Minn., "We see thyroid structural 'abnormalities' on a number of imaging tests these days. We

have to be careful in interpreting their clinical significance and avoid treating an image." Stan sees a variety of thyroid conditions, ranging from autoimmune thyroid disease, to abnormal thyroid function tests related to other medical therapies, to papillary thyroid carcinoma, to incidentally discovered thyroid nodules. He explains that because most nodules are benign, non-toxic, and non-compressive, they can be observed, and surgical intervention avoided. "I don't consider size to be an absolute criterion in that respect," he continues. "However, when intervention is needed, I aim to select a pathway that preserves as much as possible the thyroid function."

His patients, he explains, seem to prefer the treatment approach that is as selective as possible regarding the extent of thyroid resection or ablation that will result (e.g., open surgery, radioactive iodine, or ultrasound-guided ablation). "Therefore," he says, "I try to offer that selectivity if I'm convinced that it has a good likelihood of providing resolution or long-term control of their main thyroid problem." About the upcoming session at **ENDO 2020**, Stan says, "I'm looking forward to an interaction with such prominent colleagues in the field of thyroidology. I'm curious to see how they and their centers interpret and utilize the recent advances in both diagnostics and therapeutic tools available in our field."

Predicting **MENOPAUSE:** A New Test *Could Improve Accuracy*

The past century has brought us some incredible medical marvels — the discovery of insulin and antibiotics and the structure of DNA, just to name a very few. And with these advances, human life expectancy has increased. But, as with anything, that increase comes with a few strings attached — a longer lifespan means an increased risk of problems like cancer and dementia.

It also means an increase in the duration of a woman's postmenopausal life. Women now live for approximately 30 years after their final menstrual period (FMP), compared with just two years in the early 1900s. Women now live for a much longer time with reduced hormone levels, which comes with health consequences such as osteoporosis.

Those health consequences increase the need for better tests to accurately predict a woman's FMP — and the onset of menopause. Last month, a paper in *The Journal of Clinical Endocrinology & Metabolism* described a new blood test to address that need. The authors, led by Joel S. Finkelstein, MD, of Massachusetts General Hospital in Boston, Mass., and Nanette Santoro, MD, of the University of Colorado Medical School in Aurora, Colo., write that although the average lifespan for women in the U.S. has increased from 47 to 79 in the past 120 years, the average age women have their FMP has increased only from 45 to 51.

"The dramatic increase in the lifespan of postmenopausal women has increased the importance of identifying biomarkers that facilitate accurate and precise predictions of the time until FMP," the authors write.

BY DEREK BAGLEY & ERIC SEABORG

A recent study from *The Journal of Clinical Endocrinology & Metabolism* reveals that blood tests could better predict the onset of menopause. This data could be useful for women to make better informed health choices regarding a variety of postmenopausal conditions.







There are a variety of conditions in which women could benefit from an accurate test to predict the start of menopause.

A woman may face the choice of undergoing surgery to manage fibroids or determining whether it is safe to stop using birth control. Knowledge of an earlier or later start of menopause could help guide decisions on hormonal treatment. Current tests like follicle stimulating hormone (FSH) can only narrow the time of a woman's FMP down to a window of about four years, Santoro says, which is not clinically useful.

So, Finkelstein, Santoro, and their team looked at anti-Mullerian hormone (AMH) as a possible alternative to FSH. Because AMH is produced in the ovaries and declines progressively with age, the authors believed it could provide a direct index of ovarian activity. "Importantly, AMH levels are stable across the menstrual cycle and can be measured at any time without affecting interpretation of its level," they write.

"Researchers have long thought AMH would be a superior marker of the time to menopause, but tests haven't been sensitive enough to detect the very low levels that occur in the year or two leading up to menopause," Finkelstein says. "It took a cohort like the Study of Women's Health Across the Nation (SWAN), which followed the same women year after year from well before menopause until well after, to get the kind of data necessary to be able to demonstrate the predictive value of AMH."

Achieving a Research Goal

About 25 years ago, Finkelstein submitted a grant proposal predicting that AMH would be the best biomarker to predict menopause, and as time went by, his prediction became the impetus of the SWAN study. Over the next 20 years, the women in the study became menopausal and technology advanced enough that the SWAN team was able to finally access the most sensitive AMH measurement method possible.

"These two items converged around 2014 to 2015, when the team at ANSH Labs derived the AMH-PICO assay, about a log order more sensitive than prior AMH assays," Santoro says. "This allowed us to predict the final menstrual period to within a year in some cases, and that's when the SWAN team decided to go for it — measure all the samples in all eligible women who had a natural menopause and had multiple AMH collections over time."

Santoro says that SWAN began by trying to be a population-based design — selecting women from public lists, census data, and so on. The team then performed a random survey of women in the SWAN age range — about 16,000 women in total — and initially recruited 3,302 women. At the beginning of the study in the mid-1990s, the team dialed random phone numbers, which was a popular method of data collection at the time, but as recruitment got underway, women stopped answering their home phones and started blocking their

“

It also may help us better understand risks and implement appropriate screening. For example, women with earlier menopause are at higher risk of cardiovascular disease and osteoporosis, and women with later menopause may have greater life expectancy and lower cardiovascular disease risk, but higher endometrial and breast cancer risks.”

—STEPHANIE S. FAUBION, MD, MBA, MEDICAL DIRECTOR, NORTH AMERICAN MENOPAUSE SOCIETY; DIRECTOR, MAYO CLINIC CENTER FOR WOMEN'S HEALTH, ROCHESTER, MINN.

cell phones. “This method became harder to do as we were recruiting women for the longitudinal study,” Santoro says. “We had to use additional methods to get the complete cohort, but we eventually succeeded.”

Santoro also points out that it can sometimes be difficult to keep interest and participation up among the women in a study like SWAN: “Fortunately, our participants understand how valuable their contribution is to the body of knowledge on the menopause transition and midlife in women's health, and they have returned year after year.”

The researchers analyzed 7,407 blood samples from 1,537 women between the ages of 42 and 63 and monitored changes in the women's health as they went through the menopausal transition. For this study, participants' blood samples were tested for AMH levels as well as FSH. The test the team used to measure the participants' AMH levels was able to predict the women's FMP to within 12 to 24 months in women in their late 40s and 50s. “We decided that if we could ever come up with a test that was predictive within 12 months that we would consider that goal achieved and publish,” Santoro says.

Improved Treatment & Screening

Now that the goal has been achieved, this paper is making some waves, with hopes about how it could affect screening and treatment.

“This ultrasensitive measurement of AMH (together with a woman's age) is promising and appears to reliably predict the final menstrual period more accurately than currently available measures,” says Stephanie S. Faubion, MD, MBA, medical director of the North American Menopause Society and director of the Mayo Clinic Center for Women's Health in Rochester, Minn. Faubion was not a member of the group that published



AT A GLANCE

- ▶ A study published in *The Journal of Clinical Endocrinology & Metabolism* describes a new test that could predict the onset of menopause more accurately than previous methods.
- ▶ Researchers used a more sensitive test than what has been available previously to measure the study participants' anti-Müllerian hormone levels.
- ▶ This process made it possible to predict the final menstrual period's timing within 12 to 24 months in women in their late 40s and early 50s.

“

Establishing a way to measure time to the final menstrual period has long been the holy grail of menopause research. **Women can make better medical decisions with the more complete information offered by new, more sensitive anti-Müllerian hormone measurements.”**

— NANETTE SANTORO, MD, UNIVERSITY OF COLORADO MEDICAL SCHOOL, AURORA, COLO.



the paper. “Having a more reliable test to predict the timing of menopause will help us both in terms of clinical management of women and in terms of research.”

“It also may help us better understand risks and implement appropriate screening. For example, women with earlier menopause are at higher risk of cardiovascular disease and osteoporosis, and women with later menopause may have greater life expectancy and lower cardiovascular disease risk, but higher endometrial and breast cancer risks,” Faubion says.

In addition to screening, the test could affect clinical decision making. For example, a woman who has had an endometrial ablation, no longer gets menstrual periods, and wonders whether she is menopausal can make a better, safer decision about when to stop contraception.

Santoro also offers the example of a woman with early menopause and a strong family history of a disorder like osteoporosis who may be best treated for menopausal symptoms with hormones that will maintain her bone mineral density, rather than a non-hormonal option that might lessen her hot flashes, but won’t preserve her bone health. “On the other hand,” Santoro says, “a woman with a late menopause is relatively protected against lifelong bone loss but is at a higher risk of breast and endometrial cancer, and knowing her menopause may be late may help her make decisions against using hormone therapy.”

“Establishing a way to measure time to the final menstrual period has long been the holy grail of menopause research,” she continues. “Women can make better medical decisions with the more complete information offered by new, more sensitive anti-Müllerian hormone measurements.” **EN**

— BAGLEY IS THE SENIOR EDITOR OF *ENDOCRINE NEWS*. HE WROTE ABOUT THE **ENDO 2020** SESSION DEVOTED TO ENDOCRINOLOGY AND INDUSTRY IN THE FEBRUARY ISSUE, AND SEABORG IS A FREELANCE WRITER BASED IN CHARLOTTESVILLE, VA. HE WROTE ABOUT THE RISK OF DIABETES IN PATIENTS ON STATINS IN THE FEBRUARY ISSUE.



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The Endocrine Society 2020 Laureate Award WINNERS

For more than 70 years, the Endocrine Society has recognized the achievements of endocrinologists worldwide. The Laureate Awards recognize endocrinologists for seminal research, meritorious service, leadership and mentorship, innovation, international contributions, education, translation of science to practice, and lifetime achievement.

Established in 1944, the Society's Laureate Awards recognize the highest achievements in the endocrinology field, including groundbreaking research and innovations in clinical care.

The distinguished recipients on the following pages join a prestigious list of past award recipients, all of whom have advanced scientific breakthroughs, medical practice, and human health around the world. Award categories honor the achievements of endocrinologists at all stages of their careers, recognizing those at the pinnacle of the field as well as young endocrinologists who are making a mark.

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.

The Endocrine Society will present the awards to the winners at ENDO 2020, the Society's 102nd Annual Meeting & Expo, March 28 – 31, 2019 in San Francisco.



Richard E. Weitzman Outstanding Early Career Investigator Award

Andrew Dauber, MD

Andrew Dauber, MD, is the program director and director of Translational Research, Cincinnati Center for Growth Disorder, co-chair of the Genomics First for Undiagnosed Diseases Program and associate professor of pediatrics, Cincinnati, Children's Hospital Medical Center, University of Cincinnati.

In 2013, he discovered by whole-exome sequencing (WES) in families with central precocious puberty, the first human mutations in MKRN3. MKRN3 mutations have since been confirmed as the most frequent genetic cause of precocious puberty worldwide. More recently, he showed by genome sequencing that a deletion in another paternally expressed imprinted gene, DLK1, was also responsible for precocious puberty.

In 2014, he identified by WES in families with short stature and advanced bone age, novel heterozygous variants in ACAN, which encodes aggrecan, a proteoglycan in the extracellular matrix of growth plate. Again, this has been confirmed recently to be a relatively frequent cause of short stature. Dr. Dauber led a large international collaboration that reviewed the genotypic and phenotypic spectrum of ACAN deficiency in a cohort of 103 individuals.

In 2016, in collaboration with Jesus Argente (Spain), he discovered via WES a new cause for growth failure in patients with elevated total circulating IGF1 and IGFBP3 levels: mutations in PAPP-A2, a metalloproteinase responsible for releasing free IGF1 from its binding proteins.

Dr. Dauber is a dedicated and skilled teacher and has mentored several trainees. He is currently the principal investigator of several grants and has been recognized with several awards. Due to his exceptional communication skills, Dr. Dauber has been invited to speak at several national and international meetings.

Dr. Dauber's distinguished and highly productive career unquestionably qualify him to truly deserve the Richard E. Weitzman Outstanding Early Career Investigator Award.



He is an exceptional clinician-scientist who has successfully applied innovative genetic technologies to pediatric endocrinology and with friendly international collaborations his discoveries made major contributions to our understanding of the regulation of growth and puberty.



CITATOR

IVO J.P. ARNHOLD,

MD, PHD, ASSOCIATE PROFESSOR
OF MEDICINE, DIVISION OF
ENDOCRINOLOGY, HOSPITAL
DAS CLINICAS, UNIVERSITY OF
SÃO PAULO MEDICAL SCHOOL,
SÃO PAULO, BRAZIL

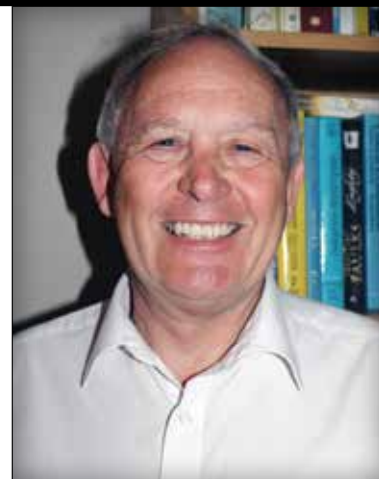


ABOUT THE AWARD

Presented to an exceptionally promising young clinical or basic investigator, this award is based upon the contributions and achievements of the nominee's own independent scholarship performed after completion of formal training and on the recipient's entire body of work, rather than a single work. Established in 1982 through a generous gift by an anonymous donor, this award honors the memory of the late Richard E. Weitzman, who had a brief but outstanding career studying neurohypophyseal hormone and cardiovascular-endocrine physiology.

Outstanding Mentor Award

Ashley Grossman, MD, FRCP



CITATOR

MÁRTA KORONITS,

MD, PHD, PROFESSOR OF
ENDOCRINOLOGY AND
METABOLISM, BARTS AND THE
LONDON SCHOOL OF MEDICINE,
QUEEN MARY UNIVERSITY OF
LONDON, LONDON, UK



ABOUT THE AWARD

This award is presented to an individual in recognition of their career commitment to mentoring, for making a significant positive impact on their mentees' education and career, and for advancing research or patient care in the field of endocrinology through their mentees. The key roles of a mentor include, but are not limited to, nurturing intellectual growth, career development, professional guidance, and positive role modeling.

Ashley Grossman has trained many leading endocrinologists in Europe and the world. With his amazing ability to combine superb clinical knowledge and many years of patient-related experience with up-to-date detailed knowledge of basic science, he enthusiastically transferred his love of academic and clinical endocrinology to his younger colleagues.

Many of his over 100 trainees are now leaders in their field of expertise but still keep contact and long-lasting friendships with him. In addition to trainees in the UK and Europe, Ashley has provided considerable support to fellows and young physicians arriving from less privileged countries from Asia and Africa, and he set up yearly training sessions for a new generation of endocrinologists in Central Asia.

His mentorship covers not just clinical and academic endocrinology, but also the management of clinics, clinical trials, a research laboratory, interactions with colleagues, tackling problems with collaborators, journal editors, and grant reviewers, while retaining a passion for endocrinology. He has served as faculty for pituitary postgraduate courses organized in Denmark and France, runs a master class in endocrinology in Oxford, and acts as mentor to young clinicians for the Academy of Medical Sciences.

As editor of several endocrinology textbooks and as the senior editor and now president of *Endotext*, Grossman continues to assist and help train future generations of endocrinologists.

Ashley has provided considerable support to fellows and young physicians arriving from less privileged countries from Asia and Africa, and he set up yearly training sessions for a new generation of endocrinologists in Central Asia.



Sidney H. Ingbar Distinguished Service Award

Carol A. Lange, PhD

Carol Lange joined the Endocrine Society and Women in Endocrinology (WE) while training as a postdoctoral fellow in the Kate Horwitz Laboratory (1996 – 1999). Notably, she has attended every annual meeting since 1996 and has routinely chaired sessions, reviewed abstracts, judged posters, and led “Meet the Expert” discussions.

In 2003, she served on the Annual Meeting Steering Committee (2003 – 2006), where she thoroughly enjoyed the creativity and fun of teamwork with her Society colleagues to create exciting **ENDO** programs. The following year, she was invited to serve on the Scientific Meetings and Educational Programs Committee (2006 – 2009), and in that role, she contributed to planning the basic scientist track of the first annual Trainee Day Career Development Workshop (2007; Toronto, Canada), now an Endocrine Society mainstay. Then Society president Dr. Peggy Shupnick invited Dr. Lange, to serve as the Endocrine Society’s Basic Science Chair (2008). Dr. Lange also served as Chair of the WE Nominating Committee (2008 – 2009). She then served on the Publications Core Committee (2010 – 2013) and became the first female editor-in-chief of an Endocrine Society journal (*Hormones and Cancer*; 2011).

She organized the day-long **ENDO** forum on hormones and cancer (June 2012) and sat on the Laureate Awards Committee (2013 – 2014) prior to being elected as the Endocrine Society’s vice president of Basic Science (2014 – 2016). During this role, Dr. Lange chaired an Endocrine Society task force on leadership development and contributed to advancing the Society’s strategic directions as an active member of Council.

She currently serves on the Endocrine Society’s Nominating Committee (2018 – 2020). To this day, Dr. Lange remains ever involved in her service to the Society, its members, and trainees as an Endocrine Society Career Day Faculty Mentor (2017 – 2019) and annual host of the Nuclear Receptors Reception (2016 – 2018).



Her motto continues to be “never say no to **ENDO**,” and her remarkable service record exemplifies this unwavering career-long commitment to the Endocrine Society.



CITATORS

CAROL A. SARTORIUS,

PHD, MEMBER, NOMINATING COMMITTEE,
WOMEN IN ENDOCRINOLOGY; PROFESSOR
UNIVERSITY OF COLORADO, DENVER
ANSCHUTZ MEDICAL CAMPUS,
DEPARTMENT OF PATHOLOGY,
AURORA, COLO.

KERRY L. BURNSTEIN,

PHD, PROFESSOR, MOLECULAR AND
CELLULAR PHARMACOLOGY, ASSOCIATE
DIRECTOR FOR EDUCATION AND TRAINING,
SYLVESTER COMPREHENSIVE CANCER
CENTER, MIAMI, FLA.



ABOUT THE AWARD

Presented in recognition of distinguished service to the Endocrine Society and the field of endocrinology. Sidney H. Ingbar, MD, DSc, a leading authority on basic and clinical aspects of thyroid function, was a highly respected teacher and clinician, mentoring over 100 associates from across the world. Dr. Ingbar was the 65th president of the Endocrine Society. *Supported by the Sidney H. Ingbar Memorial Fund.*

Roy O. Greep Award for Outstanding Research

Eleftheria Maratos-Flier, MD



CITATOR

C. RONALD KAHN,

MD, CHIEF ACADEMIC OFFICER
AND HEAD, SECTION ON
INTEGRATIVE PHYSIOLOGY AND
METABOLISM, JOSLIN DIABETES
CENTER; PROFESSOR OF
MEDICINE, HARVARD MEDICAL
SCHOOL, BOSTON, MASS.; MARY
K. IACocca PROFESSOR OF
MEDICINE, HARVARD MEDICAL
SCHOOL, BOSTON, MASS.



ABOUT THE AWARD

Presented for meritorious contributions to research in endocrinology. The award is named after Roy O. Greep, PhD, renowned for his seminal observations related to reproduction, tireless work as editor-in-chief of *Endocrinology*, and dedication to young investigators, earned respect and admiration around the world. *Supported by the Roy O. Greep Memorial Fund.*

Obesity and its metabolic complications, including type 2 diabetes and fatty liver disease, are among the greatest challenges to health around the world. At the heart of this problem is understanding energy balance — a complex network of interactions between the periphery and the brain. Dr. Maratos-Flier has defined two important molecular mediators of these interactions: FGF21 and melanin concentrating hormone (MCH).

In seminal work, Dr. Maratos-Flier identified the orexigenic neuropeptide MCH and showed that deletion of MCH was associated with a lean, hyper-metabolic phenotype, whereas overexpression was associated with increased susceptibility to obesity. She then defined the intracellular signaling pathways involved in MCH action, receptors, and the neural pathways upon which they act.

Dr. Maratos-Flier also has defined the role of fibroblast growth factor 21 (FGF21) in control of metabolism. She demonstrated that FGF21 expression was induced by ketogenic diet (KD) and that it served as a critical mediator of fatty acid oxidation. Thus, knockdown of FGF21 led to marked fatty liver and hypertriglyceridemia in mice eating KD. Mechanistically, she demonstrated direct action of FGF21 on liver and the fact that the liver was FGF21 resistant in obesity. She also showed that FGF21 could induce browning of adipose tissue, thus enhancing energy expenditure, and was the first to report a link between serum FGF21 and non-alcoholic fatty liver disease (NAFLD) in humans.

Using a model of NAFLD, she found that FGF21-KO accelerated progression of NAFLD to steatohepatitis, whereas FGF21 treatment could prevent fatty liver in mice that consumed a steatotic diet. She also showed that FGF21 plays a critical role in sugar metabolism in both mouse and humans and demonstrated a role for ChREBP in this effect, suggesting that FGF21 may serve as a fructose sensor.

Together, these studies mark Eleftheria Maratos-Flier as one of the leading endocrine researchers in the U.S. today.



In seminal work, Dr. Maratos-Flier identified the orexigenic neuropeptide MCH and showed that deletion of MCH was associated with a lean, hyper-metabolic phenotype, whereas overexpression was associated with increased susceptibility to obesity.





Outstanding Leadership in Endocrinology Award

John C. Marshall, MD, PhD

John C. Marshall is a world-renowned, highly innovative reproductive endocrinologist. After developing the first gonadotropin radioimmunoassays in the U.K., John's initial studies elucidated the physiology of luteinizing hormone (LH)/follicle stimulating hormone (FSH) secretion in health and disease. John published the first gonadotropin releasing hormone (GnRH) receptor assays using nondegradable GnRH analogs. His group defined factors regulating GnRH receptor expression and role in LH/FSH secretion. John first described quantitation of gonadotropin subunit mRNAs, allowing novel insights into regulation of subunit genes by GnRH pulse secretion and intra-pituitary follistatin/activins. He developed the first primary transcript assays for the LH and FSH α - and β -subunit genes, allowing real-time quantitation of subunit expression and elucidating of the pivotal role of GnRH pulse frequency in the differential biosynthesis of LH and FSH.

John's clinical investigation first focused on mechanisms of pubertal maturation and the roles of pulsatile GnRH/steroid regulation. He was the first to administer physiologic GnRH pulses in anorexia nervosa to reproduce hormonal changes of the menstrual cycle. He also first demonstrated differing sleep/wake sensitivity to progesterone inhibition of GnRH secretion in girls, explaining the transition from nocturnal prepubertal to the 24-hour GnRH adult pattern. John identified polycystic ovary syndrome (PCOS) as a GnRH frequency disorder, demonstrated impaired steroid feedback in PCOS, hyperandrogenemia impairing progesterone inhibition, allowing persistently rapid GnRH/LH secretion — a hallmark of PCOS.

John's innovative contributions have been recognized by election to the ASCI and AAP, the Clinical Endocrinology Trust Medal, the Transatlantic Medal of the Society for Endocrinology [UK], and the Clinical Investigator Award of the Endocrine Society and by continuous funding from the National Institutes of Health (NIH).

John has contributed extensively to education, directing NIH training grants for 30 years, training 42 MD/PhDs, many pursuing NIH-supported academic careers with five achieving professor status. He has been chief of endocrinology at Michigan and chair of medicine and director of the Center for Research in Reproduction at the University of Virginia. He has served as a journal and textbook editor, ABIM board member, NIH reviewer/scientific counselor, and secretary/treasurer of the Endocrine Society.

CITATORS

ROBERT M. CAREY,

MD, MACP, FAHA, FRCPI, PROFESSOR OF MEDICINE & DEAN, EMERITUS, SCHOOL OF MEDICINE, UNIVERSITY OF VIRGINIA HEALTH SYSTEM, CHARLOTTESVILLE, VA.

ANDREA DUNAIF,

MD, LILLIAN AND HENRY M. STRATTON PROFESSOR OF MOLECULAR MEDICINE; CHIEF, HILDA & J. LESTER GABRILOVE DIVISION OF ENDOCRINOLOGY, DIABETES & BONE DISEASE, DEPARTMENT OF MEDICINE, ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI, NEW YORK, N.Y.



ABOUT THE AWARD

Presented in recognition of outstanding leadership in fundamental or clinical endocrinology as exemplified by the recipient's contributions and those of his or her trainees and associates to teaching, research, and/or administration.

Gerald D. Aurbach Award for Outstanding Translational Research

Donald P. McDonnell, PhD



CITATOR

BERT W. O'MALLEY,

MD, DEPARTMENT OF MOLECULAR
AND CELL BIOLOGY, BAYLOR
COLLEGE OF MEDICINE,
HOUSTON, TEXAS



ABOUT THE AWARD

Presented in recognition of outstanding research that accelerates the transition of scientific discoveries into clinical applications that improve human health or elucidate the pathogenesis of human disease. Translational research supported with this award will typically involve expertise, collaboration, and engagement across disciplines.

Gerald D. Aurbach, MD, the Endocrine Society's 68th president, was a renowned researcher, mentor, and clinician, and his work revolutionized the understanding of bone metabolism and calcium homeostasis. *Supported by the Gerald D. Aurbach Memorial Fund.*

Donald P. McDonnell challenged longstanding models of nuclear receptor (NR) endocrine pharmacology that had held that an agonist was a “switch” that induced activating conformational changes in a NR, while antagonists functioned as competitive inhibitors that would freeze receptors in an inactive (apo) state. His genetic dissection of estrogen/progesterone receptor signaling provided the first evidence for the existence of “functional adapters” that act distal to the receptor (coregulators) and are primary regulators of ligand-mediated NR pharmacology.

He then defined how information flows from ligands to their cognate receptors and ultimately to coregulators using: (a) genetic screens to identify NR mutations that alter responses to ligands; (b) combinatorial peptide phage display to survey ligand-induced, allosteric changes in receptor conformation; and (c) high affinity peptide-antagonists to probe the functionality of protein-protein interaction surfaces on NRs upon ligand binding. He proposed and validated a revised model of NR pharmacology that posits: (a) the conformation of an NR is determined by its ligand; (b) allosteric changes in receptor conformation enable the presentation of different protein-protein interaction surfaces; and (c) functional output reflects the ability of differently conformed liganded NRs to engage functionally distinct coregulators in cells. These insights informed his development of mechanism-based discovery platforms that have enabled the identification of novel therapeutic drugs for specific endocrinopathies.

Notable successes include his discovery of the first-in-class selective estrogen receptor downregulator (SERD) Etecsil, a scaffold upon which most of the current SERDs are based, and his repurposing of elacestrant, lasofoxifene, and bazedoxifene, drugs that are currently in clinical development for metastatic breast cancer. Similar approaches have led to the identification of several new classes of clinically important androgen receptor modulators. Recent work also led to the impactful demonstration that the oxysterol 27-hydroxycholesterol is a biochemical link between hypercholesterolemia and breast cancer pathobiology and increased risk of osteoporotic fractures in women.

These insights informed his development of mechanism-based discovery platforms that have enabled the identification of novel therapeutic drugs for specific endocrinopathies.



Outstanding Innovation Award

Christopher B. Newgard, PhD

Christopher B. Newgard's professional career has been devoted to metabolic research. Within the Sarah W. Stedman Nutrition and Metabolism Center and Duke Molecular Physiology Institute (DMPI) where he is the director, he has developed a suite of comprehensive molecular profiling platforms across the "omics" sciences to support the work of his own laboratory and numerous others at Duke and outside institutions. In particular, he leverages these platforms to gain deeper understanding of dysregulated metabolic function in cardiometabolic diseases, including obesity, diabetes, cardiovascular diseases, and kidney diseases.

Indeed, Dr. Newgard has developed one of the most active and collaborative metabolomics laboratories in the world and has used these tools for defining mechanisms underlying pandemic metabolic disorders. For example, he has shown that a cluster of metabolites from the branched-chain amino acid (BCAA) catabolic pathway is more strongly associated with insulin resistance than other metabolite clusters, including lipid-related clusters, in humans; and in animal studies, BCAA supplementation exacerbates insulin resistance, whereas BCAA restriction improves insulin action. Remarkably, the BCAA-related metabolite cluster is predictive of diabetes intervention outcomes at baseline and strongly responsive to such interventions. Moreover, the BCAA-related signature is influenced by the gut microbiome and may also contribute to obesity-associated behavioral abnormalities.

Furthermore, he has a major interest and an extensive track record in research on pancreatic islet biology. Using differentially glucose-responsive insulinoma cell lines created in the Newgard Laboratory, NMR-based analysis was applied to demonstrate that glucose-stimulated insulin secretion (GSIS) is tightly correlated to pyruvate anaplerosis and cycling activity rather than pyruvate oxidation. He subsequently demonstrated that a pyruvate/isocitrate/glutathione pathway is a potent regulator of GSIS, and that intermediates in this novel pathway are able to rescue function in glucose unresponsive islets from humans with type 2 diabetes. Dr. Newgard has also demonstrated that overexpression of the homeobox transcription factor Nkx6.1 in pancreatic islets simultaneously enhances GSIS and β -cell replication. This rare dual effect has led the group to explore the pathways activated by Nkx6.1. Nkx6.1 enhances GSIS by induction of a prohormone, VGF, which is processed to yield multiple peptides, including TLQP-21, which is insulinotropic, protective against apoptotic agents, and able to attenuate onset of hyperglycemia in a rat model of type 2 diabetes.

CITATOR

BERT W. O'MALLEY,
MD, DEPARTMENT OF MOLECULAR
AND CELL BIOLOGY, BAYLOR
COLLEGE OF MEDICINE,
HOUSTON, TEXAS



ABOUT THE AWARD

Established in 2013, this award is presented to recognize an individual or team of people who have demonstrated innovation to further endocrine research or practice in support of the field of endocrinology, patients, and society at large.

Outstanding Educator Award

Alvin C. Powers, MD



CITATORS

STEVEN E. KAHN,

MB, CHB, PROFESSOR OF MEDICINE;
LEONARD L. WRIGHT AND MARJORIE
C. WRIGHT CHAIR, DIVISION OF
METABOLISM, ENDOCRINOLOGY AND
NUTRITION; DIRECTOR, DIABETES
RESEARCH CENTER, UNIVERSITY OF
WASHINGTON, VA PUGET SOUND HEALTH
CARE SYSTEM, SEATTLE, WASH.

MITCHELL A. LAZAR,

MD, PHD, WILLARD AND RHODA WARE
PROFESSOR IN DIABETES AND METABOLIC
DISEASES; DIRECTOR, INSTITUTE FOR
DIABETES, OBESITY, AND METABOLISM;
CHIEF, DIVISION OF ENDOCRINOLOGY,
DIABETES, AND METABOLISM, UNIVERSITY
OF PENNSYLVANIA PERELMAN SCHOOL OF
MEDICINE, PHILADELPHIA, PA.



ABOUT THE AWARD

Presented in recognition of exceptional
achievement as an educator in the
discipline of endocrinology and
metabolism.

Alvin C. Powers, director of the Vanderbilt Diabetes Center, has made special contributions to education as director of the Vanderbilt Medical Student Research Training Program and director of the National Institutes of Diabetes and Digestive and Kidney Diseases (NIDDK) Medical Student Research Program (DK-MSRP).

The former is a NIH-supported program enabling medical students from throughout the nation to conduct intensive, mentored diabetes or endocrine research at Vanderbilt in the summer following their first year of medical school. Students also participate in a Powers-designed curriculum that emphasizes the importance of scientific discovery in improving clinical care and provides guidance about career opportunities in diabetes, endocrinology, and biomedical research.

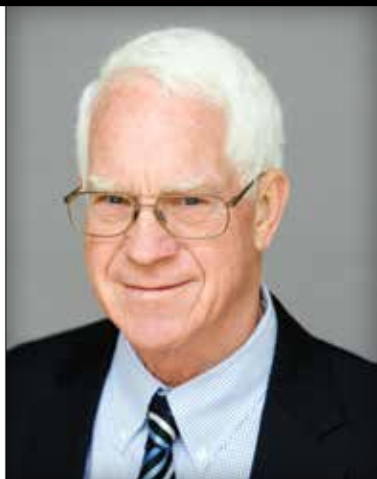
Under his leadership, over the past 20 years more than 600 students from 90 U.S. medical schools have participated in this Vanderbilt program. Because of the success of this program, Powers developed and has led the NIDDK-sponsored DK-MSRP since 2008 during which time more than 700 students from over 100 U.S. medical schools have conducted research at NIDDK-supported Diabetes Research Centers and learned about challenges, opportunities, and career pathways in diabetes and endocrinology through a web-based curriculum he coordinates. At the conclusion of their summer research experiences, students from both programs attend a two-day research symposium designed and led by Powers to present their research to peers and visiting professors and to engage in discussions about research and career pathways in academic medicine and endocrinology.

Because so many students from these programs have published their research findings, subsequently conducted biomedical research, and/or entered the field of endocrinology, this award recognizes Powers' exceptional educational efforts that have had a profound influence on more than 1,000 U.S. medical students and is fostering development of young physician-scientists with an interest in endocrinology.



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Fred Conrad Koch Lifetime Achievement Award

Richard J. Santen

Richard J. Santen, MD, is professor of medicine at the University of Virginia and a former president of the Endocrine Society. His impressive clinical and research career has focused on both prostate and breast cancer. His pioneering work led to the development of first-, second-, and third-generation aromatase inhibitors for the treatment of hormone-dependent breast cancer. His laboratory has continued with seminal publications on the study of the mechanisms relating estrogens to breast cancer and the biology and natural history of endocrine-dependent forms of breast cancer.

He has published over 400 manuscripts and chapters, predominantly related to the role that estrogen plays in breast cancer development. His expertise in estrogens led to a strong clinical interest in the treatment of menopause and to his selection by the Endocrine Society to write a definitive Scientific Statement on this topic. He enlisted 34 internationally diverse, expert clinicians to write this treatise.

For his work in the development of aromatase inhibitors, now standard of care for hormone-dependent breast cancer, he received the Susan Komen Foundation Brinker International Award for breast cancer clinical research in 1993. Other awards include the American Association of Clinical Chemistry Distinguished Science Award, the Robert H. Williams Distinguished Leadership Award of the Endocrine Society, and the William L. McGuire Memorial Lectureship Award for Breast Cancer.

During his illustrious career, Dr. Santen has been a major contributor to the Endocrine Society, serving as chair of the Finance Committee, spearheading a financial plan to secure the long-term stability of the Endocrine Society, initiating the International Scholars program of the Endocrine Society, and, as president of the Endocrine Society, leading an initiative to support the next generation of endocrinologists. Recognized as a leading clinical endocrinologist, Santen's achievements have spanned the clinical, research, teaching, and administrative spectrum.

Recognized as a leading clinical endocrinologist, Santen's achievements have spanned the clinical, research, teaching, and administrative spectrum.

CITATORS

ROBERT M. CAREY,
MD, MACP, DEAN, EMERITUS, AND
PROFESSOR OF MEDICINE, UNIVERSITY
OF VIRGINIA SCHOOL OF MEDICINE,
CHARLOTTESVILLE, VA.

LAURENCE M. DEMERS,
PHD, DSC, DISTINGUISHED PROFESSOR
EMERITUS, PATHOLOGY AND MEDICINE,
THE M. S. HERSHEY MEDICAL CENTER,
THE PENNSYLVANIA STATE UNIVERSITY,
HERSHEY, PA.



ABOUT THE AWARD

The Fred Conrad Koch Lifetime Achievement Award — the Society's highest honor — recognizes the lifetime achievements and exceptional contributions of an individual to the field of endocrinology. Fred Conrad Koch, PhD, the Society's 19th president, is best remembered for his elucidation of testicular function. In 1957, the late Elizabeth Koch bequeathed a substantial legacy to the Endocrine Society in memory of her late husband.

International Excellence in Endocrinology Award

Roy Shires, MBBCh, PhD, FRCP



CITATORS

N.A. MOHAMED,

MBBCH, DEPARTMENT OF INTERNAL MEDICINE, CHRIS HANI BARAGWANATH ACADEMIC HOSPITAL AND FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG, SOUTH AFRICA

NASRIN GOOLAM MAHYOODEEN,

MBCHB, FCP(SA), PHD, CONSULTANT/ ENDOCRINOLOGIST, CHRIS HANI BARAGWANATH ACADEMIC HOSPITAL, UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG, SOUTH AFRICA



ABOUT THE AWARD

Presented to an endocrinologist who resides outside of the U.S. and who has made exceptional contributions to the field of endocrinology in geographic areas with underdeveloped resources for endocrine research, education, clinical practice, or administration. These may include non-traditional activities with substantial local impact to their own country and/or internationally.

Roy Shires is a professor of medicine at the University of the Witwatersrand, Johannesburg, South Africa. He became the first head of the Division of Endocrinology at Chris Hani Baragwanath Academic Hospital, the world's third largest hospital and the only tertiary medical facility serving the largely impoverished and underprivileged population of Soweto — a sprawling, densely populated township near Johannesburg.

Prior to assuming this position, he completed fellowship training at Washington University in St. Louis, Mo., in the Division of Bone and Mineral Metabolism under Dr. Louis Avioli. His groundbreaking research, "Bone and Mineral Metabolism in Streptozotocin-Induced Chronic Diabetes Mellitus in the Rat," earned him a PhD.

Despite clinical demands at this under-resourced hospital, placing severe constraints on opportunities for research, he has managed to perform meaningful clinical research, often collaborating with basic scientists. His scientific publications have won him the best annual publication award from the Society for Endocrinology, Metabolism, and Diabetes of South Africa (SEMDSA) a number of times.

He is acknowledged as an inspiring mentor by students, post-graduates, and fellows. He has often served as an examiner and examination coordinator for the endocrinology subspecialty diploma of the College of Medicine of South Africa and has also served as chairperson of the organizing committee for many SEMDSA annual conferences.

In recognition of his multifaceted contributions to endocrinology in South Africa, in 2013 he was acknowledged with a lifetime award from SEMDSA "for excellence and dedication in clinical services, teaching, and research in endocrinology." The University of the Witwatersrand also awarded him its Distinguished Service Medal of excellence. In 2017, he was made an Honorary Member of SEMDSA, the only such honor bestowed in a long time.

Recently, he has initiated the first clinical program to manage transgender persons in the Soweto population.

He is acknowledged as an inspiring mentor by students, post-graduates, and fellows.



Vigersky Outstanding Clinical Practitioner Award

Peter A. Singer, MD

Peter A. Singer, MD, has had a great impact through the years in improving the care of people with endocrine diseases, by his outstanding role in supporting community physicians and his model as a teacher and mentor of medical students, house officers, and endocrine fellows.

In 1978, a few months after joining the Los Angeles Good Samaritan Hospital medical staff, he organized the first annual Thyroid Symposium for community physicians and endocrinologists, which has continued annually for 40 years and has just recently been named “The Peter A. Singer Annual Thyroid Symposium” sponsored by the University of Southern California.

He was the editor of *Current Topics in Thyroid Disease* from 1979 to 1990, published twice a year by the Hospital of the Good Samaritan and mailed to community practicing physicians. He has received multiple medical awards, including the Outstanding Clinical Endocrinologist Award, American Association of Clinical Endocrinologists, 2004; Year II Faculty Teaching Award, Keck School of Medicine, University of Southern California, 2010; Distinguished Service Award, the American Thyroid Association, 2013; the American Association of Clinical Endocrinologists Award in the Humanities and Ethics, 2017; and the Vietnam Veterans of America Excellence in Science Award, 2018.

After his one-year stint in the Vietnam War, Dr. Singer became chairman of the East Meets West organization until 2014 when he became chairman emeritus. He helped build the organization from a small primary care clinic in Da Nang, Vietnam, that he designed with his wife in 1990, to the global entity it is today, including a project involved in the care of children born with congenital heart diseases.

Through his work, Dr. Singer has demonstrated that a physician’s role in helping others and improving health is not limited to the clinic or hospital but can extend beyond borders and cultures.



Dr. Singer has demonstrated that a physician’s role in helping others and improving health is not limited to the clinic or hospital but can extend beyond borders and cultures.



CITATOR

JORGE H. MESTMAN,
MD, PROFESSOR OF MEDICINE
AND OBSTETRICS AND
GYNECOLOGY, KECK SCHOOL OF
MEDICINE OF USC,
LOS ANGELES, CALIF.



ABOUT THE AWARD

This award is presented in recognition of extraordinary contributions by a practicing endocrinologist to the endocrine and/or medical community. The recipient spends the majority of their time in the practice of clinical endocrinology.

Outstanding Scholarly Physician Award

R. Michael Tuttle, MD



CITATORS

GARY L. FRANCIS,

MD, PHD, PROFESSOR OF PEDIATRIC
ENDOCRINOLOGY, UNIVERSITY OF TEXAS
HEALTH SCIENCE CENTER AT SAN
ANTONIO, SAN ANTONIO, TEXAS

MATTHEW D. RINGEL,

MD, RALPH W. KURTZ PROFESSOR
OF MEDICINE, DIRECTOR, DIVISION
OF ENDOCRINOLOGY, DIABETES,
AND METABOLISM, THE OHIO STATE
UNIVERSITY, WEXNER MEDICAL
CENTER, COLUMBUS, OHIO



ABOUT THE AWARD

Presented in recognition of outstanding
contributions to the practice of clinical
endocrinology in an academic setting.

R. Michael Tuttle, MD, is professor of medicine, Cornell University and clinical director of the Endocrine Service, Memorial Sloan Kettering Hospital. He is a leading clinician-investigator in the field of thyroid cancer, and his work has shifted the paradigm in differentiated thyroid cancer (DTC) treatment.

Dr. Tuttle is a leader in the study of radiation-induced thyroid cancer, having served as consultant to the Centers for Disease Control for Radiation Exposure of Peoples in the Marshall Islands, the Hanford Downwinder Project, and adviser to the National Academy of Science for Radiation Exposed Populations. He remains at the forefront in identifying driver mutations for DTC and exploiting these pathways with multi-kinase inhibitors (TKI) for treatment of radioiodine resistant DTC.

Dr. Tuttle's work changed the way in which we manage DTC. Prior to this, all patients with DTC were treated with total thyroidectomy and radioactive iodine (RAI). Dr. Tuttle was one of the pioneers to use serum thyroglobulin (Tg) as an indicator of residual DTC. He led international studies proving the efficacy of recombinant thyrotropin (rhTSH) for determination of TSH-stimulated Tg. This work led to stratification of patients with DTC into risk categories based on operative findings and serum Tg levels, thus allowing low-risk patients to avoid RAI and to be treated with lobectomy alone. In conjunction with his molecular studies, his clinical work opened the field for multikinase inhibitor (TKI) therapy for radio-iodine resistant DTC, an area in which he remains one of the most important pioneers.

Dr. Tuttle leads expert panels to develop treatment guidelines for DTC and serves as a mentor to innumerable young clinicians, a leader in the Endocrine Society and the American Thyroid Association, and as a true role model for everyone in endocrinology. He is the penultimate clinician-scientist.



Dr. Tuttle...serves as a mentor to innumerable young clinicians, a leader in the Endocrine Society...and as a true role model for everyone in endocrinology. He is the penultimate clinician-scientist.





Outstanding Clinical Investigator Award

Greet Van den Berghe, MD, PhD

Greet Van den Berghe, MD, PhD, is currently head of the Department & Laboratory of Intensive Care Medicine at the KU Leuven — University of Leuven. This intensive care unit is a large, 67-bed tertiary center treating over 3,100 patients annually including adults as well as children.

Dr. Van den Berghe is also full professor of medicine at the KU Leuven and has been running an active research program on the endocrinology of critical illness since 1995. She published more than 424 papers in peer-reviewed journals (H-index: 74) and has authored many chapters in international textbooks on intensive care and endocrinology. She has been an invited speaker at numerous scientific meetings worldwide.

She has studied at the faculty of Medicine of the KU Leuven — University of Leuven, Belgium and did her internships at the University of Bristol, U.K. She graduated in 1985 after which she specialized in anesthesiology and later intensive care medicine. She subsequently studied biostatistics and completed a PhD thesis in endocrinology.

She has been a clinical research investigator for the Fund for Scientific Research Flanders, Belgium; was a member of the Belgian Royal Academy of Medicine; is currently holder of a personal “advanced” grant from the Horizon 2020 Program of the EU and a Methusalem grant from the Flemish Government in Belgium; is a member of the German National Academy of Sciences – Leopoldina; and a fellow of the Royal College of Physicians of Edinburgh.

Dr. Van den Berghe is also an outstanding educator who has mentored 48 PhD students, 20 post-doctoral fellows, and several junior faculty members at KU Leuven. She has received numerous teaching and service awards at her institution and throughout Europe. Her superb contribution to science has been recognized by receiving over 50 scientific local and international awards. She has had a remarkable scientific career and has made significant contributions in many areas in critical care medicine, diabetes, and endocrinology.

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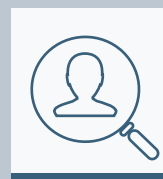
CITATORS

GUILLERMO E. UMPIERREZ,

MD, FACP, PROFESSOR OF MEDICINE,
DIRECTOR OF CLINICAL RESEARCH,
CENTER OF DIABETES & METABOLISM
EMORY UNIVERSITY; DIRECTOR,
DIABETES AND ENDOCRINOLOGY,
GRADY HEALTH SYSTEM, ATLANTA, GA.

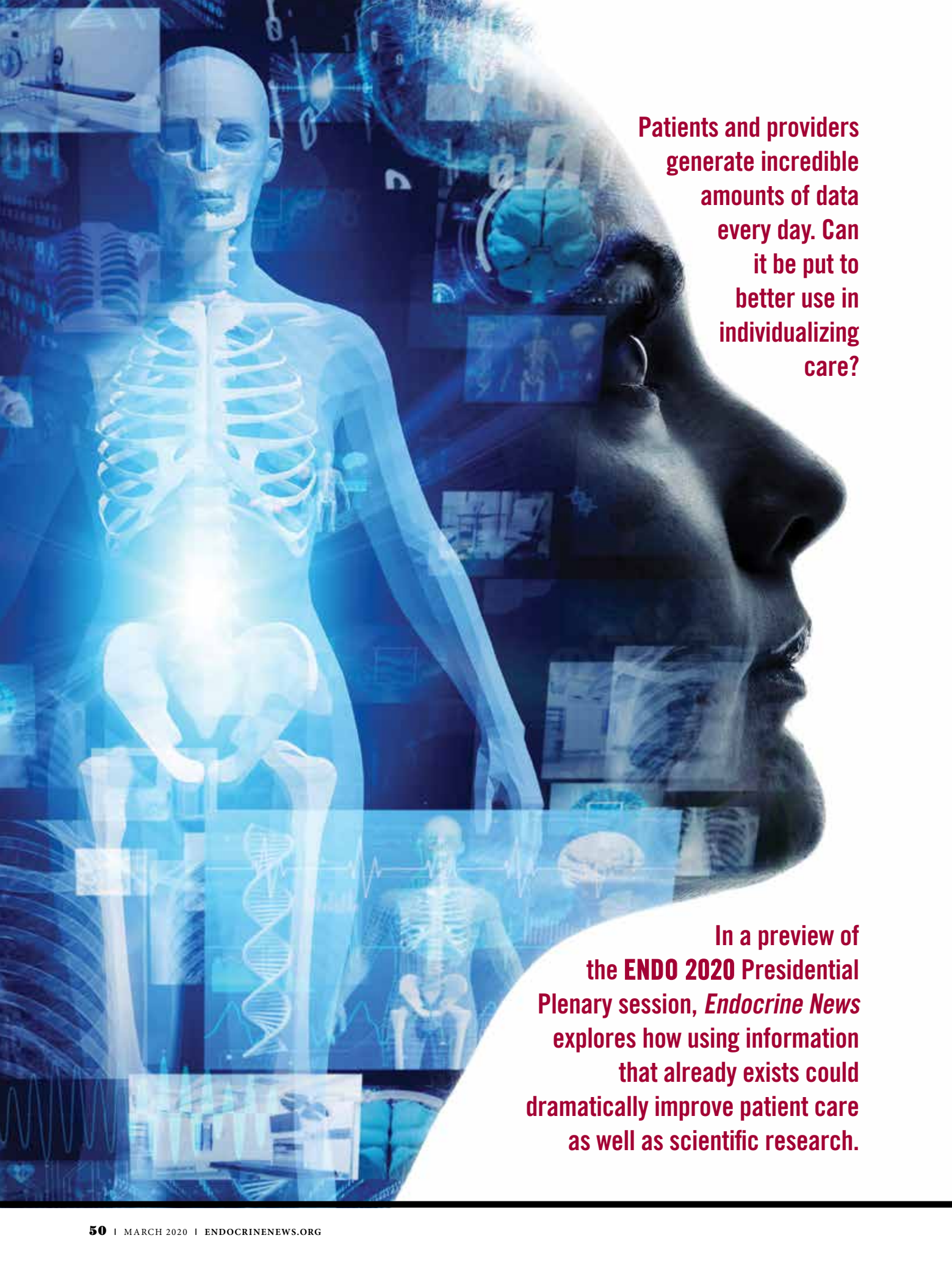
MARK E. MOLITCH,

MD, PROFESSOR EMERITUS, DIVISION OF
ENDOCRINOLOGY, METABOLISM & MOLECULAR
MEDICINE, DEPARTMENT OF MEDICINE,
NORTHWESTERN UNIVERSITY FEINBERG
SCHOOL OF MEDICINE, CHICAGO, ILL.



ABOUT THE AWARD

Presented to an endocrinologist who resides outside of the U.S. and has made exceptional contributions to the field of endocrinology in geographic areas with underdeveloped resources for endocrine research, education, clinical practice, or administration. These may include non-traditional activities with substantial local impact to their own country and/or internationally.



Patients and providers
generate incredible
amounts of data
every day. Can
it be put to
better use in
individualizing
care?

In a preview of
the **ENDO 2020** Presidential
Plenary session, *Endocrine News*
explores how using information
that already exists could
dramatically improve patient care
as well as scientific research.

BY ERIC SEABORG

Untapped RESOURCES:

IMPROVING THE PRACTICE OF MEDICINE IN THE AGE OF BIG DATA

Love 'em or hate 'em, there could be gold in those electronic health records. The University of California (UC) Health System is saving \$1 million a year on a single diabetes drug — simply by monitoring the records among some 200,000 UC employees to ensure that physicians prescribe the generic form of metformin instead of the brand name.

And that's just a taste of the promise of harnessing big data, according to pediatric endocrinologist Atul J. Butte, MD, PhD, the Priscilla Chan and Mark Zuckerberg Distinguished Professor at the University of California, San Francisco, and chief data scientist for the UC Health System. Butte will speak at the Presidential Plenary at ENDO 2020 on "Precisely Practicing Medicine from 700 Trillion Points of Data."

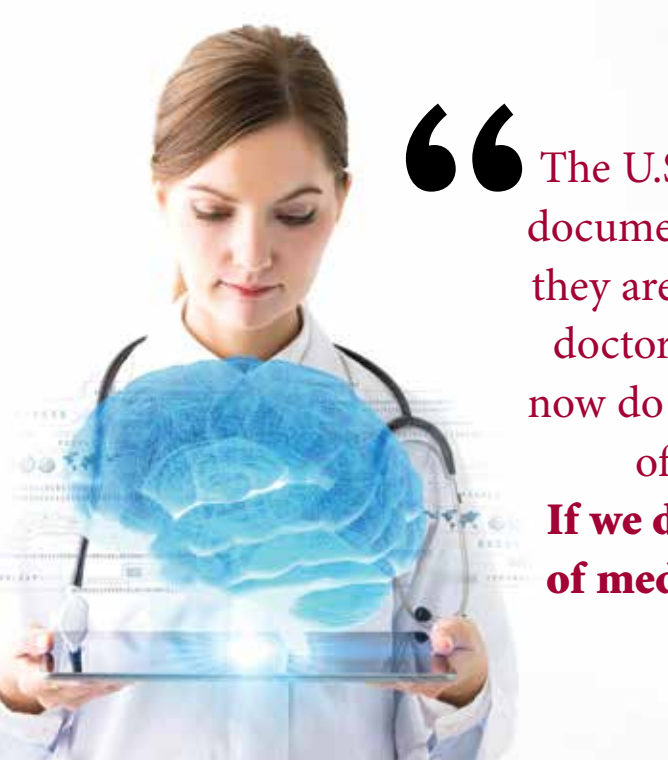
The concerted effort to steer clinicians toward the cheaper alternative manifests in different actions. At one UC campus, administrators tweaked the EPIC records system to increase the difficulty of ordering the brand name. Another approach is that when the medical records alert pharmacists of the prescriptions, the clinicians might

receive telephone calls asking for clarification of their practice patterns. "It's known as the Hawthorne effect," Butte tells *Endocrine News*. "Once people know you are looking, all of a sudden, things start to improve."

Electronic health records make this kind of accountability possible, Butte says: "The U.S. health system is making endocrinologists document in electronic medical records everything they are doing, which some doctors love and many doctors hate. So the real question is: What can we now do with all that data? We have spent hundreds of billions of dollars putting these systems in. If we don't use this data to improve the practice of medicine, it's going to be a national tragedy."

Variations in Diabetes Drug Regimens

Beyond the first diabetes drug, Butte's team is examining prescribing patterns among the myriad diabetes drugs, combinations of drugs, and order in which clinicians choose to prescribe them. One striking preliminary finding is that among 71,000 diabetes patients in the



“The U.S. health system is making endocrinologists document in electronic medical records everything they are doing, which some doctors love and many doctors hate. So the real question is: What can we now do with all that data? We have spent hundreds of billions of dollars putting these systems in. **If we don't use this data to improve the practice of medicine, it's going to be a national tragedy.**”

— ATUL J. BUTTE, MD, PHD, THE PRISCILLA CHAN AND MARK ZUCKERBERG DISTINGUISHED PROFESSOR, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO; CHIEF DATA SCIENTIST, UC HEALTH SYSTEM

UC Health System, there are more than 6,500 “unique medication trajectories.”

“Think about how many different ways we have to practice medicine,” Butte says. “For instance, when we start someone on diabetes medications, think about how many different ways we have of starting. Consider how many ways we have to go to the next one and the next one. And this is for a disease where we actually have consensus treatment guidelines. There is a lot of variability in practice, and one might question how much of that variability is unnecessary, or unnecessarily expensive. Maybe a few of these treatment regimens are better than the others, and it is about time we start to study that.”

Butte likens treating a patient to playing a game of chess: The physician makes a move, the patient's disease makes a counter-move, and it is the physician's turn to move again. Clinicians should be better at mapping out the strategies for their moves and anticipating future countermoves. He hopes that deeper analyses of the data on the individual choices being made and how they are turning out can provide comparative effectiveness information on different approaches and regimens.

New Tests from Public Data

Butte's current position at a large health system has him focused on electronic health records, but his previous

research dealt with harnessing public molecular data available on the internet to answer new questions. For example, when he was at Stanford University, he received his first large National Institutes of Health grant to gather RNA expression data sets across many diseases, and he used the information to help create a prototype diagnostic test for preeclampsia. Although it is a large cause of maternal and fetal death, Butte says that the diagnostic testing for preeclampsia “is ancient.”

Butte's team wrote programs to screen the publicly available data from 266 experiments for commonalities to identify potential markers that could be used in a blood test. After publishing their results, Butte and his colleagues tapped into Silicon Valley investors who supplied more than \$2 million in start-up funds for a company to develop the blood test, which has advanced into clinical trials. “This is the new way science has to continue out of our labs,” he says.

New Uses for Old Drugs

Given that it costs billions of dollars to develop new drugs, Butte has also pioneered techniques of using large sets of existing molecular data to circumvent these costs by repositioning — finding new uses for — old drugs. There are famous examples of this process happening serendipitously: The antihypertensive/cardiac drugs minoxidil and sildenafil found much larger markets when they were marketed for their “side effects” of causing hair



SEE IT AT ENDO 2020!

PRESIDENTIAL PLENARY:

Big Data and the Future of Endocrine Research
Saturday March 28, 2020, 8:40 AM – 9:30 AM


This session will highlight how big data can prove very useful in treating patients as well as being leveraged in a laboratory setting. Successfully harnessing big data could be a game changer in conducting research and treating patients.

Butte's team wrote programs to screen the publicly available data from 266 experiments for commonalities to identify potential markers that could be used in a blood test. After publishing their results, Butte and his colleagues tapped into Silicon Valley investors who supplied more than \$2 million in start-up funds for a company to develop the blood test, which has advanced into clinical trials.

growth and combatting erectile dysfunction, respectively. "Instead of finding these new uses by accident, how about we try to find them on purpose by using public data? The raw data of the best scientists in the world is sitting on the internet," Butte says.

Butte's teams have mined researchers' data to match several drugs with possible new applications. For example, they showed that the anti-epileptic drug topiramate is effective against inflammatory bowel disease in a rat model. They found that the tapeworm medication niclosamide is effective treating liver cancer in a mouse model. Start-up companies are continuing the investigations of both these new uses.

Butte sees another huge opportunity on the horizon from the raw data from clinical trials: "Half of them fail, and when they fail, we don't even write papers about them and release the data. That is going to change." The European Medicines Agency is requiring researchers to publish the raw data from all clinical trials — and the availability of this data should open new avenues of research.

The other high-octane speaker rounding out the plenary roster will be Griffin P. Rodgers, MD, director of the National Institute of Diabetes and Digestive and Kidney Diseases. In a talk titled, "Diabetes Research in the Era of Big Data: the NIDDK Perspective," Rodgers will share his perspective on opportunities for leveraging big data in the laboratory, the challenges to be overcome, and the strategic vision for the future of NIH research for endocrinology and diabetes. 



AT A GLANCE

- ▶ Electronic medical records could provide a resource with great potential for improving practice, but so far, they remain largely untapped.
- ▶ The internet already contains huge amounts of medical research data that some researchers are putting to novel use — such as identifying potential new uses for old drugs.
- ▶ Successfully harnessing big data can lead to more effective — and cost-effective — care.

—SEABORG IS A FREELANCE WRITER BASED IN CHARLOTTESVILLE, VA. HE WROTE ABOUT THE PERCEIVED DIABETES RISKS FOR PATIENTS PRESCRIBED STATINS IN THE FEBRUARY ISSUE.

From Bed to Bench AND BACK



BY GLENDA FAUNTLEROY SHAW

After receiving the 2020 Endocrine Society Laureate Award for Outstanding Clinical Investigator, Greet Van den Berghe, MD, PhD, discusses her unique research background that started in critical care medicine and has led her to pursuing a variety of studies that could help improve the outcomes of critically ill patients.

When Greet Van den Berghe, MD, PhD, learned she had been named the 2020 Laureate “Outstanding Clinical Investigator,” it was welcomed confirmation that her “slightly unusual background” had put her in the same company as great past and present endocrinologists.

A professor at University Hospitals Leuven and Catholic University of Leuven in Belgium, Van den Berghe is one of the most recognized scholars and clinical researchers in the world of diabetes and endocrinology of critical care.

Endocrine News caught up with her to learn more about her contributions that have changed the way we care for critically ill patients around the globe.

Endocrine News: You are among 13 endocrinologists

recognized as a 2020 Laureate. What does the award mean to you?

Van den Berghe: It’s such a great honor! Being nominated and actually being awarded came entirely as a surprise. I started my career in critical care medicine and moved to endocrinology for my PhD and post-doc research thereafter. With my slightly unusual background, I always felt a bit like the “ugly duck” among the **ENDO** crowd, but at the same time I always felt so welcome and appreciated. Throughout my career, I’ve been impressed by the high level of research that was, and still is, presented at **ENDO** and by the top endocrinologists who were awarded such prizes. I really never thought I’d ever be among them.

EN: The award spotlights your contributions to understanding the role of glucose control and other endocrinological changes

in critically ill patients. Can you explain how targeting a normal blood glucose level benefits them?

Van den Berghe: In patients who suffer from critical illnesses that require intensive medical care, hyperglycemia is almost uniformly present. The severity of hyperglycemia is long known to be associated with risk of adverse outcomes — the lowest risk being linked with blood glucose levels in the normal fasting range for the different age groups. In infants and children, the blood glucose range associated with the lowest risk is much lower than in adults: 50 – 80 mg/dl for infants and 70 – 100 mg/dl for children, as compared with 80 – 110 mg/dl for adults.

Our group has performed three landmark randomized controlled trials: two in adults and one in critically ill children. All three showed that targeting age-specific healthy fasting blood glucose ranges while in the ICU can reduce morbidity and mortality in the short and long term. These studies were performed in the context of early full feeding, though, a strategy that we later showed to be one that hampers recovery. We further showed that the mechanisms of toxicity of hyperglycemia during critical illness comprise aggravation of cell damage, more specifically mitochondrial damage, in those cells that take up glucose passively, such as white blood cells, endothelial cells, renal tubular cells, hepatocytes, central, and peripheral neurons. The damage is predominantly brought about by toxic side products of stimulated glycolysis, such as methylglyoxal, that directly damage the mitochondria. Via epigenetic alterations, these acute effects of hyperglycemia also can lead to long-term impairment, in young children specifically, and this may explain part of the long-term neurocognitive burden of critical illness, as we have shown subsequently.

EN: Tell us a little about your laboratory and team.

Van den Berghe: I started my own independent laboratory in the late 90s after finishing my post-doc. I started with one clinical trial assistant, Pieter Wouters, and later in the lab with a couple of PhD students and two post-docs, Ilse Vanhorebeek and Lies Langouche, both now professors on my team. We have since grown into a group of 12 senior scientists (mixed clinical/basic backgrounds), around four lab technicians and six clinical research assistants, and at any time around 12 PhD students and a few post-docs. It's the collaborative efforts of my team, for research that moved

“It's the collaborative efforts of my team, for research that moved from the bed to the bench and back, that have resulted in several important new discoveries that have changed practice worldwide. Without my collaborators, without the stimulating interaction among people with different backgrounds, this would not have happened.”

from the bed to the bench and back, that have resulted in several important new discoveries that have changed practice worldwide. Without my collaborators, without the stimulating interaction among people with different backgrounds, this would not have happened.

EN: What's in the works for 2020?

Van den Berghe: Our focus currently is on three large programs. First, we are performing exciting research on how metabolic interventions, such as blood glucose control and certain feeding strategies, affect the epigenome, as a potential mediator of the long-term legacy of critical illness. Second, we are investigating whether evolutionary conserved catabolic pathways such as lipolysis and ketogenesis can be exploited in the search for prevention of brain dysfunction and muscle weakness in critically ill patients. In that context, we are also exploring the role of fasting-mimicking diets in the ICU. A third large program is on further understanding the hypothalamic-pituitary-adrenal axis in acute and prolonged critical illness. Exciting preliminary data suggest that all three programs may reveal novel insights that may pave the way toward improved outcomes for critically ill adults and children. **EN**

Fiscal Year 2021 Budget Battles Begin; Endocrine Society Advocates for \$3 Billion Increase for NIH to Boost Paylines



Released on February 10, the President's Budget for fiscal year (FY) 2021 remains largely consistent with the administration's previous proposals, seeking to slash non-defense discretionary funding across the board. While research funding agencies were not spared, the budget does reflect the administration's interest in two fields — artificial intelligence (AI) and quantum information science (QIS). For biomedical research, pediatric cancer and pain were two fields that fared relatively well (i.e., flat-funded) compared to other research areas.

With the publication of the President's Budget proposal, the month of February typically marks the beginning of the appropriations process for the coming FY. As a strong and consistent supporter of steady, sustainable increased in federal funding for scientific research at the National Institutes of Health (NIH) and other agencies, and the Endocrine Society keeps a close eye on any developments that reflect how these agencies might fare next year.

While the budget can give signals to the administration's priorities, it's important to recognize that Congress ultimately decides on the funding levels through the appropriations process. Toward that end, last year Congress passed a budget deal that set overall spending caps through FY 2021, and we anticipate that appropriators will set spending levels that are consistent with the overall caps. For FY 2021, the cap for domestic discretionary spending is \$2.5 billion above the previous year's level.

Take Action

Even if you are not participating in the Hill Day, all US members can voice their support by joining our online advocacy campaign to ensure that all members of Congress appreciate the importance of prioritizing biomedical research and diabetes prevention programs. Please visit www.endocrine.org/takeaction today!

However, now that the budget process has "officially" started, it's important for us to act now to ensure that the NIH and other research funding agencies get the boost that they desperately need. This month, we have organized a Researcher Hill Day so that Endocrine Society members can visit their elected representatives in Washington, D.C., to advocate for a total appropriation for the NIH of \$44.7 billion, or a \$3 billion increase over the FY 2020 level. We are also advocating for \$8.3 billion for the Centers for Disease Control and Prevention, including \$185 million for the Division of Diabetes Translation and \$35 million for the National Diabetes Prevention Program.

Endocrine Society Members Educate NGOs about EDCs




Endocrine Society members Heather Patisaul, PhD, (left) and Riana Bornman, PhD, promoting the latest EDC science in Ethiopia.

In February, Endocrine Society members Heather Patisaul, PhD, and Riana Bornman, PhD, participated in the International POPs Elimination Network (IPEN) held Global Meeting and Forum on Chemicals & Waste at Lake Bishoftu, Ethiopia, to share the latest science on endocrine-disrupting chemicals (EDCs) and how exposures to EDCs are linked to health effects.

The aim of the global meeting and forum was to bring together influential representatives from leading non-governmental organizations (NGOs), as well as policy makers from the United Nations and government representatives from around the world, to create a collaborative environment toward a toxics-free future. The program included technical and scientific experts working on a variety of chemicals of concern. EDCs were a key theme, with Patisaul and Bornman leading educational sessions on this topic for attendees.

The Endocrine Society has partnered with IPEN to educate global stakeholders about the hazards posed by EDCs, for example, by launching the Endocrine Society/IPEN “Introduction to EDCs, A Guide for Public Interest Organizations and Policymakers” and translating the guide into several languages. We look forward to continuing collaboration with IPEN to raise awareness about EDCs among the global community of NGOs and seek opportunities to ensure that regulators and policy makers appreciate the importance of improving health through appropriate regulation of harmful chemicals.




To download a free copy of the Endocrine Society/IPEN “Introduction to EDCs: A Guide for Public Interest Organizations and Policymakers” in English, French, Spanish, Portuguese, Russian, or Arabic, visit <https://www.endocrine.org/topics/edc/introduction-to-edcs>.

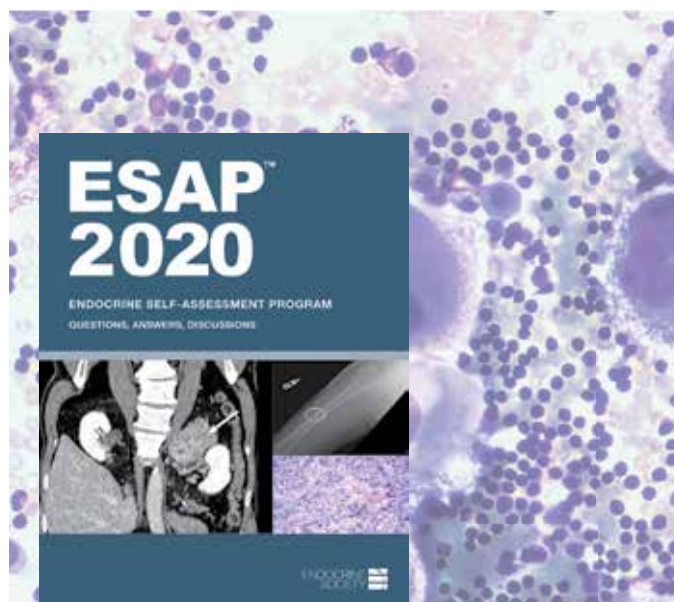
Advocacy Session at ENDO 2020

March 28 10:45 am – 11:15 am
in the Science Hub



As a reader of *Endocrine News*, you know that the Endocrine Society advocates for research funding, diabetes and obesity prevention, access to care, women's health, physician payment, and regulation of EDCs. Our members are an integral part of our advocacy program, and everyone has a role.

Join us on Saturday, March 28 from 10:45 to 11:15 am in the Science Hub to hear from Endocrine Society members about the benefits of engaging in our advocacy program and learn how you can become involved in advocating for your profession. 



"This was a great review in endocrinology;
it was comprehensive and will help me in my practice"
– Beth Cohen, MD

"Overall, nice diversity of endocrinology topics with isolation of
some problem issues in managing patients and their diseases"
– Lori Roust, MD

EXAMINE YOUR CLINICAL KNOWLEDGE

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SELF-ASSESSMENT TOOL
IN THE FIELD.

- Features 120 common and rare cases across the spectrum of endocrinology, diabetes, and metabolism
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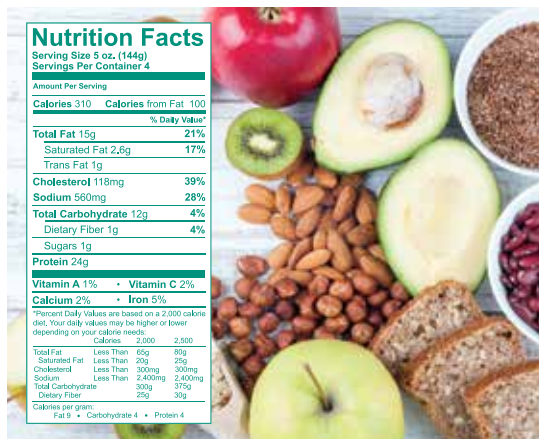
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HEALTHY EATING IS KEY TO PREVENTING AND MANAGING DIABETES. THESE HEALTHY TIPS WILL HELP MAKE YOUR LIFESTYLE CHANGE EASIER!

Eat Healthier

- When reading nutrition labels, look at the serving size and how many calories you are consuming. If you double the servings that you eat, you are consuming double the calories and nutrients.
- Look for foods that are rich in Vitamin A, Vitamin C, Calcium, and Iron.
- To reduce your risk for diabetes and heart disease, use the Nutrition Facts Label to eat foods that are low in saturated fat, trans fat and cholesterol. Also limit consuming foods high in sodium.
- Healthy and wholesome carbohydrates (carbs) are good for you! Fibers and sugars are excellent sources of carbs. They can be found in fruits, vegetables, bean, and whole grains. Whole grains can't always be identified by color or name. Look for foods with "whole" grain listed as the first ingredient. Also limit foods with high amounts of added sugars (sucrose, glucose, fructose, corn, or maple syrup), which only add calories, but not important nutrients
- Consume proteins that are lower in fat, especially foods that are lean, low-fat, or fat free.



Nutrition Facts	
Serving Size 5 oz. (144g)	
Servings Per Container 4	
Amount Per Serving	
Calories 310	Calories from Fat 100
% Daily Value*	
Total Fat 15g	21%
Saturated Fat 2.6g	17%
Trans Fat 1g	
Cholesterol 118mg	39%
Sodium 560mg	28%
Total Carbohydrate 12g	4%
Dietary Fiber 1g	4%
Sugars 1g	
Protein 24g	
Vitamin A 1%	Vitamin C 2%
Calcium 2%	Iron 5%
*Percent Daily Values are based on a diet of other people's secrets. Your daily values may be higher or lower depending on your calorie needs.	
Calories	2,000 2,500
Total Fat	Less Than 65g 90g
Saturated Fat	Less Than 20g 25g
Cholesterol	Less Than 300mg 300mg
Sodium	Less Than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9	Carbohydrate 4 • Protein 4





LA ALIMENTACIÓN SALUDABLE ES CLAVE PARA PREVENIR Y CONTROLAR LA DIABETES. ¡ESTOS CONSEJOS SALUDABLES FACILITARÁN EL CAMBIO DE SU ESTILO DE VIDA!

¡Utilice la Etiqueta de Información Nutricional para Comer de Forma Más Saludable!

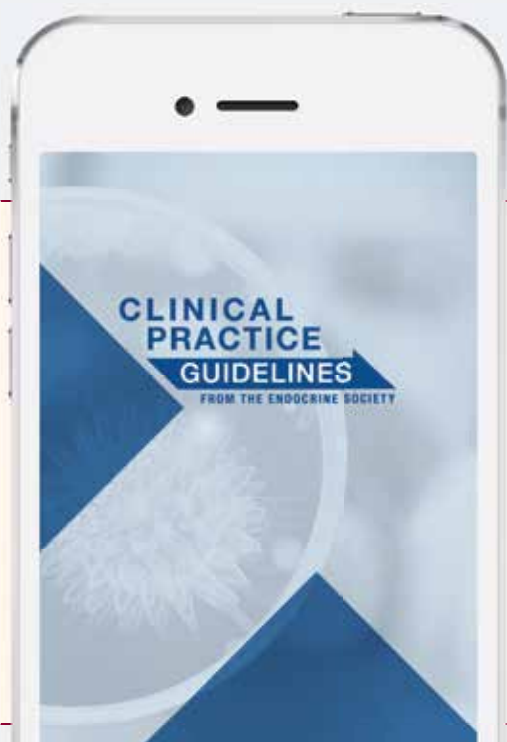
- Al leer las etiquetas de nutrición, observe el tamaño de la porción y la cantidad de calorías que está consumiendo. Si dobla las porciones que come, está consumiendo el doble de calorías y nutrientes.
- Busque alimentos que sean ricos en Vitamina A, Vitamina C, Calcio, y Hierro.
- Para reducir el riesgo de diabetes y enfermedades del corazón, use la etiqueta de información nutricional para consumir alimentos con bajo contenido de grasas saturadas, grasas trans, y colesterol. También limite el consumo de alimentos con alto contenido de sodio.
- ¡Los carbohidratos sanos y saludables son buenos para usted! Las fibras y azúcares son buenos tipos de carbohidratos. Se pueden encontrar en frutas, verduras, frijoles y granos integrales. Los granos integrales no siempre se pueden identificar por color o nombre. Busque alimentos que tengan granos integrales como el primer ingrediente. También limite los alimentos con altas cantidades de azúcares agregados (sacarosa, glucosa, fructosa, maíz o jarabe de maple), ya que solo agregan calorías, pero no nutrientes importantes.
- Consuma proteínas que sean más bajas en grasa, especialmente alimentos magros, bajos en grasa, o sin grasa.



CLINICAL PRACTICE GUIDELINES APP

MAKE DECISIONS AT THE POINT OF CARE

Download the app to access interactive point of care tools, complete guidelines, algorithms and decision aids, online education, and patient information.



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- Pharmacological Management of Osteoporosis in Postmenopausal Women
- Congenital Adrenal Hyperplasia Due to Steroid 21-Hydroxylase Deficiency



QUALITY PAYMENT PROGRAM

Did you know that our Society's Clinical Practice Guidelines app can help you meet Medicare payment reporting requirements?

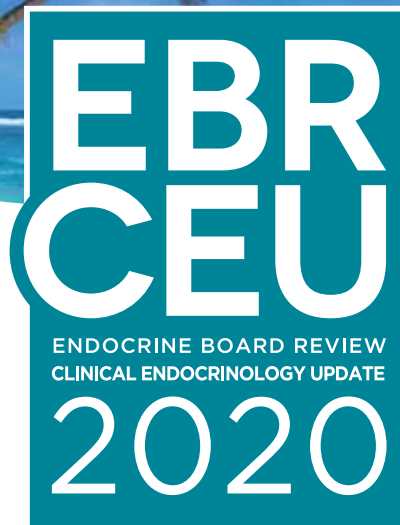
Eligible clinicians participating in the Merit-based Incentive Payment System (MIPS) must implement multiple clinical practice improvement activities each performance year.

Satisfy reporting requirements and start claiming credit today.

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SEPTEMBER 10-12 **MIAMI, FL**

CLINICAL ENDOCRINOLOGY UPDATE
OCTOBER 23-25 **SAN DIEGO, CA**
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