

OCTOBER 2018

THE LEADING MAGAZINE FOR ● ENDOCRINOLOGISTS

Endocrine news

INTERNATIONAL

Breaking *the* HABIT:

Opioid-Induced Endocrinopathies

The opioid epidemic in America is a devastating health crisis that costs over \$78 billion each year while claiming over 40,000 lives. However, what's not making headlines is the toll these drugs take on the endocrine system. *Endocrine News* takes a closer look at what both patients and clinicians need to know about the insidious effects of these drugs and the potential steps to combatting these often-severe conditions.



DEEP IN THE HEART OF TEXAS:

Studying the genetic causes of obesity in children.

LAB NOTES Q&A:

At the bench with Robert V. Farese, Jr.

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Hormone Science to Health

THE ENDOCRINE SOCIETY IS THRILLED
TO ANNOUNCE AND CONGRATULATE THE
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Edward M. Brown, MD

GERALD D. AURBACH AWARD FOR OUTSTANDING TRANSLATIONAL RESEARCH

Helen H. Hobbs, MD

INTERNATIONAL EXCELLENCE IN ENDOCRINOLOGY AWARD

Ana Claudia Latronico, MD, PhD

OUTSTANDING CLINICAL INVESTIGATOR AWARD

Wiebke Arlt, MD, DSc, FRCP, FMedSci

OUTSTANDING CLINICAL PRACTITIONER AWARD

James W. Findling, MD

OUTSTANDING EDUCATOR AWARD

Kenneth D. Burman, MD

OUTSTANDING INNOVATION AWARD

John J. Kopchick, PhD

OUTSTANDING LEADERSHIP IN ENDOCRINOLOGY AWARD

William F. Young, Jr., MD, MSc

OUTSTANDING MENTOR AWARD

Dolores J. Lamb, PhD, HCLD (ABB)

OUTSTANDING SCHOLARLY PHYSICIAN AWARD

Ian D. Hay, MD, PhD

RICHARD E. WEITZMAN OUTSTANDING EARLY CAREER INVESTIGATOR AWARD

Patrick Seale, PhD

ROY O. GREEP AWARD FOR OUTSTANDING RESEARCH

Cheryl Lyn Walker, PhD

SIDNEY H. INGBAR AWARD FOR DISTINGUISHED SERVICE

Carole R. Mendelson, PhD

Awards will be presented at ENDO 2019: The 101st Annual Meeting & Expo in New Orleans, LA, March 23-26, 2019.

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2020 LAUREATE AWARDS

CALL FOR NOMINATIONS

DEADLINE: DECEMBER 16, 2018

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Richard E. Weitzman Outstanding
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Roy O. Greep Award
for Outstanding Research

Sidney H. Ingbar Award
for Distinguished Service

NOMINATE TODAY

The Endocrine Society's Laureate Awards are the highest honors bestowed by the Society to recognize the paramount achievements in the endocrinology field including, but not limited to, seminal research, clinical investigation, translational research, mentorship, and non-traditional activities to support developing countries.

Nominate on your own schedule—nominations are now accepted throughout the year. Submissions made after the deadline will be considered for the 2021 award cycle.

- Web resources offer tips for first-time nominators and answers to frequently asked questions
- Need to update a current nomination package? Find out how!

Awards will be honored at ENDO 2020: the 102nd Annual Meeting in San Francisco, California, March 28–31, 2020.

Get started now by visiting endocrine.org/laureate.

Questions? Contact us at laureate@endocrine.org.



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As new statistics reveal an alarming rate of obesity in the U.S., more and more people are opting for weight loss surgery to combat this disease. However, there are myriad side effects to be concerned about other than weight regain that range from addiction to possible suicide risk.

BY DEREK BAGLEY

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Opioid-Induced Endocrinopathies

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BY DEREK BAGLEY

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BY COURTNEY CARSON

www.endocrine.org



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Our Governance Task Force Keeps Moving Forward

As many of you know, we are at the beginning stages of implementing our new strategic plan (SP4). The plan is bold, aspirational, and outward looking. We are committed to dedicating the appropriate resources and member/staff talent to implementing the plan.

It is essential to review our governance structure at this juncture. "Governance" is the structure and processes that an organization puts in place to reach its goals. For us, the right governance will ensure that we have the right leaders in the right roles at the right time, that our member committees and workgroups are aligned with our strategic goals, and that our leaders represent the broad diversity of our field. We have created the Governance Task Force to assess this for us.

Organizations like ours periodically review their governance approach, especially following alterations in the professional landscape or organizational goals. Since our last strategic

plan (2006), our operating environment, membership demographics, and the technology that enables member engagement have all changed.

The Governance Task Force, chaired by past president Lynnette K. Nieman, MD, is comprised of 21 individuals with broad perspectives and experiences; its charge is to recommend a governance approach that will enable our organization to achieve the goals in our strategic plan. This governance review will address both the structure and processes by which we develop and select our member leaders and organize our member workforce. We're doing this because:

- To achieve our ambitious priorities, we need to optimize how we engage our members and staff;
- Our members want more short-term, focused opportunities in addition to traditional committee work;



Governance Task Force members at their second in-person meeting in Miami, Fla.


- We need to provide leadership development opportunities to establish a robust pipeline of future member leaders; and

The Governance Task Force at work in Miami.




- Our membership demographics are increasingly diverse and we need to ensure that our leadership fully represents our members.

To inform the task force work, we have surveyed our members and conducted focused discussions at **ENDO 2018** and **CEU 2018**. This provided great insight for the task force discussions. In late September we invited current and past leaders to provide feedback on our initial thoughts by participating in a webinar. While no firm conclusions or recommendations have been made, you can learn more about this initiative by emailing info@endocrine.org to request a link to one of these informational webinars.


We will continue to keep you updated through this column and the weekly *Endocrine eNews*. I'm excited about the possibilities and look forward to the future. 

— Susan J. Mandel, MD, MPH, President, Endocrine Society

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FROM THE **EDITOR**

Endocrine News for Your Ears

In recent years, *Endocrine News* has gone through myriad changes. First, the redesign of the print magazine resulting in a more contemporary, easy-to-read (and award-winning) format. Then a revamped website with a huge database of articles past and present, along with a newfound presence on Twitter (2,000+ followers and new ones tuning in every day). And now for something completely different: *Endocrine News* that you can listen to at your leisure with the *Endocrine News* Podcast.

Launched in June, the podcast was created to give scientists and healthcare providers a convenient way to stay up to speed with the constant advances in the field. The debut podcasts featured Stephanie Page, MD, PhD, professor of medicine at the University of Washington, discussing the progress made in achieving the ever-elusive male birth control pill, based on her presentation at **ENDO 2018** in Chicago, followed by a chat with Anupam Kotwal, MBBS, an endocrinology fellow at the Mayo Clinic, who discussed his research, which shows potential for autoimmune diabetes outcomes from novel anti-cancer agents.

Since then, the podcasts have featured Alberto Ferlin, PhD, from the University of Brescia in Italy, who talked about his cohort findings connecting semen quality to general male health; Angela Magdaleno, DO, Lehigh Valley Health Network, who discussed preconception counseling for women with diabetes; Charles Sklar, MD, from Memorial Sloan-Kettering Cancer Center in New York, who shed some light on the Society's clinical practice guideline on the need to screen for endocrine disorders in patients who have survived cancer in childhood; and to commemorate Women's Health Month in September, Jerilynn Prior, MD, detailed a new treatment for perimenopause.

Hosted by the Endocrine Society's chief communications officer, Aaron Lohr and the Society's acquisitions editor & strategic content developer Caitlin R. Ondracek, the podcasts are produced by the Society's director of publishing technology, Andrew Harmon. Each podcast is only around 20 minutes in length, so it is ideal listening for your commute or while you burn calories on the treadmill at the gym. The episodes can be streamed or downloaded at **www.endocrine.org/podcast** or at the Apple Store free of charge.

While there are no plans for an *Endocrine News* television show just yet, as they say in "the biz," stay tuned! **EN**

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



ENDO2019

SHOWCASE YOUR RESEARCH

MARCH 23–26, 2019 **NEW ORLEANS, LA**
ERNEST N. MORIAL CONVENTION CENTER

SUBMIT YOUR ABSTRACT

DEADLINE: NOVEMBER 7, 2018

Accepted abstracts will be published in a supplemental issue
in the *Journal of the Endocrine Society* (JES).

ENDOCRINE.ORG/ABSTRACTS

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Meet the Endocrine Society's 2019 Laureate Award Winners

In 2018, the Laureate Awards Committee had the daunting task to review 70 nomination packages, of which only 13 distinguished men and women were selected to receive the Society's highest honors.

These awards, 13 distinct categories, recognize endocrinologists around the world for their seminal discoveries, outstanding research, translation of science to clinical applications, innovation, dedication to education and mentoring, and so much more. The 2019 esteemed Laureates join an impressive list of past winners whose discoveries and dedication have improved the health around the world:

- **Fred Conrad Koch Lifetime Achievement Award:**
Edward M. Brown, MD, *Harvard Medical School and Brigham and Women's Hospital, Boston*
- **Gerald D. Aurbach Award for Outstanding Translational Research:**
Helen H. Hobbs, MD, *Howard Hughes Medical Institute; McDermott Center for Human Growth and Development, University of Texas Southwestern, Dallas*
- **International Excellence in Endocrinology Award:**
Ana Claudia Latronico, MD, PhD, *University of Sao Paulo, Sao Paulo, Brazil*
- **Outstanding Clinical Investigator Award:**
Wiebke Arlt, MD, DSc, FRCP, FMedSci, *Institute of Metabolism and Systems Research, University of Birmingham in Birmingham, U.K.*
- **Outstanding Clinical Practitioner Award:**
James W. Findling, MD, *Medical College of Wisconsin, Milwaukee*
- **Outstanding Educator Award:**
Kenneth D. Burman, MD, *Georgetown University and Medstar Washington Hospital Center, Washington, D.C.*
- **Outstanding Innovation Award:**
John J. Kopchick, MS, PhD, *Heritage College of Osteopathic Medicine; Edison Biotechnology Institute, Ohio University, Athens*
- **Outstanding Leadership in Endocrinology Award:**
William F. Young, Jr., MD, MSc, *Mayo Clinic College of Medicine, Rochester, Minn.*
- **Outstanding Mentor Award:**
Dolores J. Lamb, PhD, HCLD, *Weill Cornell Medical College, New York*
- **Outstanding Scholarly Physician Award:**
Ian D. Hay, MD, PhD, *Mayo Clinic, Rochester, Minn.*
- **Richard E. Weitzman Outstanding Early Career Investigator Award:**
Patrick Seale, PhD, *Perelman School of Medicine, University of Pennsylvania, Philadelphia*
- **Roy O. Greep Award for Outstanding Research:**
Cheryl Lyn Walker, PhD, *Baylor College of Medicine, Houston, Texas*
- **Sidney H. Ingbar Distinguished Service Award:**
Carole R. Mendelson, PhD, *North Texas March of Dimes Birth Defects Center, University of Texas Southwestern Medical Center, Dallas*

Please join the Society in congratulating the achievements of the newest Laureates. They will be honored at **ENDO 2019** in New Orleans and featured in the January 2019 issue of *Endocrine News*.



Francis S. Collins, MD, PhD, director of the National Institutes of Health (NIH), the largest supporter of biomedical research in the world, will deliver a presidential plenary speech at **ENDO 2019** in New Orleans in March.

Other noteworthy speakers are Robert Califf, MD, Duke University School of Medicine and former Food & Drug Administration (FDA) Commissioner, and Cori Bargmann, PhD, Rockefeller University and head of the Chan Zuckerberg Initiative's science work.

Collins is a renowned speaker and talented physician-geneticist noted for his landmark discoveries of disease genes. He's well known for his leadership of the international Human Genome Project and he previously served as the director of the NIH's National Human Genome Research Institute. He will kick off the event with his presidential plenary on translating whole genome data to disease, and the rest of the sessions will cover other innovative topics like neuroendocrinology, big data, nuclear receptor signaling, and hormone science.

Here's a preview of **ENDO 2019's** most cutting-edge sessions that have been confirmed so far:

- **Presidential Plenary: Whole Genome Approaches to Unraveling Diseases**
Francis S. Collins, MD, PhD, director, NIH, Bethesda, Md.

NIH Director Francis S. Collins to Deliver ENDO 2019 Presidential Plenary

- **Utilizing Big Data in Science and Clinical Care**
Cori Bargmann, PhD, Rockefeller University, New York, N.Y., head, Chan Zuckerberg Initiative's science work
Robert Califf, MD, Duke University School of Medicine, Durham, N.C., former FDA Commissioner
- **Gene Editing and Stem Cells: Using Reproductive Technology for Early Disease Treatment**
Juan Carlos Izpisua Belmonte, PhD, Salk Institute, La Jolla, Calif.
Marisa Bartolomei, PhD, University of Pennsylvania, Philadelphia
- **Novel Therapeutic Targets in Metabolic Disease and Cancer**
Myles Brown, MD, Dana-Farber Cancer Institute, Boston, Mass.
Peter J. Tontonoz, MD, PhD, University of California-Los Angeles, Los Angeles
- **Hormone Science to Health: The Endocrine Society Goes to the National Academy of Sciences**
Barbara B. Kahn, MS, MD, Beth Israel Deaconess Medical Center, Boston, Mass.
Christopher Glass, MD, PhD, University of California - San Diego, La Jolla
Mitchell A. Lazar, MD, PhD, University of Pennsylvania
- **Targeting Senescent Cells in Aging and Disease**
Jan M. van Deursen, PhD, Mayo Clinic, Rochester, Minn.
Sundeep Khosla, MD, Mayo Clinic College of Medicine

ENDO 2019 is being held at the Ernest N. Morial Convention center in New Orleans, La., from March 23 to 26, 2019. The extensive program will feature advanced endocrine science, poster and Meet-the-Professor sessions, and the newest products and technologies at ENDOExpo.

Abstract submissions opened in September and early registration opens October 25, 2018. Check the event page regularly for updates: <https://www.endocrine.org/endo2019>.

Endocrine Society President Susan Mandel Travels Down Under

In August, Endocrine Society president Susan Mandel, MD, MPH, traveled to Adelaide, Australia, to give the Pincus Taft Memorial Lecture at the 2018 Annual Scientific Meetings of the Endocrine Society of Australia and the Society for Reproductive Biology. The Pincus Taft Memorial Lecture is given each year at the ESA Annual Scientific Meeting by a person who has made distinguished contributions in the field of Clinical Endocrinology. She is shown here immediately after her talk with Duncan Topliss, MD, director, Endocrinology & Diabetes at Alfred Hospital in Melbourne.

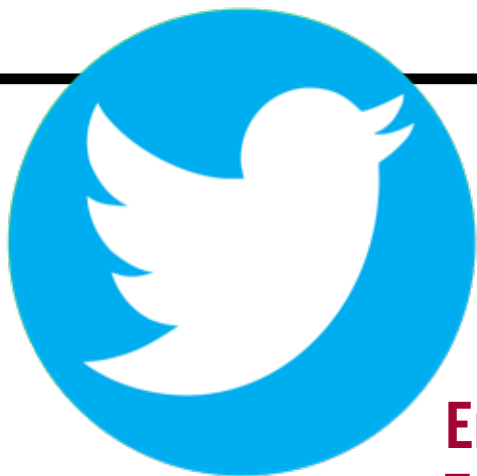


New MedPage Today Reading Room Delves into Cardio-Endo Connection

The Endocrine Society partnered with MedPage Today and the American College of Cardiology (ACC) to launch a Reading Room featuring the latest research examining the links between cardiology and endocrinology.

Designed to collect a variety of resources in a digital hub, the Cardio-Endo Connection Reading Room features top articles from the Society's and ACC's journals, as well as MedPage Today news articles and Hormone Health Network patient resources. Some of the initial research articles explore the cardiovascular benefits of adding acarbose to metformin therapy for people with type 2 diabetes and cardiovascular disease risk in thyroid cancer survivors.

The Reading Room will raise awareness of the latest science among primary care physicians as well as endocrinologists and cardiologists. It launched on MedPage Today's site on October 1, a year after the Society partnered with MedPage Today on a Reading Room focused on diabetes research. The Reading Room can be accessed at: www.medpagetoday.com/clinical-connection/cardio-endo.



Endocrine Society Hosted Several Twitter Chats for Women's Health Month

In September, the Endocrine Society hosted four Twitter chats for Women's Health Month, covering a range of topics that affect women's endocrine health. Society members and experts on different aspects of women's health moderated each chat, answering questions from other associations and the public in general.

The first Twitter chat on September 6 was hosted by Michael J. Sikora, PhD, of the University of Colorado Anschutz Medical Campus. Participants discussed how hormones play a role in breast cancer. The chat garnered 1.7 million impressions (times seen), with one of the highlights being Sikora describing the number of factors in play in breast cancer development: "Of course, steroid hormones aren't the only players, as breast cancer may also be driven by hormones like insulin, leptin, and prolactin. How these hormones interact with steroid hormones like estrogen is also actively being studied!"

On September 13, Rhona Bentley-Lewis, MD, MMSc, of Massachusetts General Hospital, and Jodi Pawluski, PhD, of the University of Rennes, joined the Society for a Twitter chat on fertility and pregnancy. Pawluski pointed out, "In mothers, a neural maternal circuitry comes online which involves core limbic and cortical brain areas that work to mediate maternal care-giving behaviors. These brain changes can also occur to some degree in fathers." This chat was viewed more than one million times.

September 20's Twitter chat was on oncofertility, so who better to join than Teresa K. Woodruff, of Northwestern University. Woodruff coined the term used to describe preserving fertility in cancer patients, and her lab has done some groundbreaking work. The Endocrine Society's Journals Twitter account shared Woodruff's commencement speech that she gave on oncofertility to the National Institute of Child Health and Human Development, during which she said, "We started with the hypothesis that advances in 21st-century medicine require well-trained basic scientists and clinical investigators who study

endocrine science and medicine in partnership with a well-informed public." This chat was seen almost one million times.

The final chat, on September 24, focused on female athletes and reproduction, namely on the Society's recent clinical practice guideline on hypothalamic amenorrhea. Catherine Gordon, MD, MSc, who chaired the committee that wrote the

“

Of course, steroid hormones aren't the only players, as breast cancer may also be driven by hormones like insulin, leptin, and prolactin. How these hormones interact with steroid hormones like estrogen is also actively being studied!

”

evidence-based report, moderated this chat, at one point saying, "Adolescence is a key period of time for bone accrual for young women. It's important to keep hormones within a normal range for this critical period of bone formation."

The Society plans to host Twitter chats on a different topic each month. Be sure to look for the hashtag #EndoChat if you want to join in. -Derek Bagley 



BY DEREK BAGLEY
Senior Editor

Challenges Remain that Prevent Optimal Type 1 Diabetes Research and Clinical Trials



“

One reason for persistent failure of type 1 diabetes studies is an overgeneralized clinical approach that involves disease stratification; not every patient at risk for type 1 diabetes has pathogenic immune effector T cells that are responsive to insulin or another single specific autoantigen.

”

Type 1 diabetes research and clinical trials will continue to fail to meet their goals until several knowledge gaps are acknowledged and addressed, according to a paper recently published in *The Journal of Clinical Endocrinology & Metabolism*.

The perspective article, by David Bleich, MD, of Rutgers New Jersey Medical School in Rutgers, N.J., and David H. Wagner, of the University of Colorado Anschutz Medical Center in Aurora, Colo., points out that four major clinical insulin trials have been conducted to prevent type 1 diabetes, and each has failed to meet its outcome to date. “The recent failed TrialNet study, titled *Effect of Oral Insulin on Prevention of Diabetes in Relatives of Patients with Type 1 Diabetes*, was both disappointing and predictable,” the authors write. “Numerous studies using insulin in differing configurations have consistently demonstrated lack of efficacy in preventing human type 1 diabetes.”

Bleich and Wagner reviewed high-quality peer-reviewed basic science and clinical trials on type 1 diabetes from 2000 to 2018 using Google Scholar and PubMed reference databases. They noticed that one reason for these continued failures is a uniform protocol for antigen-specific immunotherapy. “One reason for persistent failure of type 1 diabetes studies is an overgeneralized clinical approach that involves disease stratification; not every patient at risk for type 1 diabetes has pathogenic immune effector T cells that are responsive to insulin or another single specific autoantigen,” they write.

Here, true personalized or precision medicine should come into play, recognizing that each individual has



“phenotypic and genotypic quirks that distinguish them from other study participants.” “An alternative approach using molecular tools to personalize the preventive treatment strategy might be a road forward for type 1 diabetes research,” Bleich and Wagner write.

The authors then lay out their idea for designing a clinical type 1 diabetes prevention trial. They write that a randomized, double-blind, placebo-controlled trial will not work because there are too many variables in each person to control: (1) autoantigen number, (2) antigen dosing, and (3) T-cell receptor (TCR) rearrangement. “Perhaps a prospective cohort study design would be useful,” they write, “whereby each study participant received a personalized immune tolerance protocol, thus a precision medicine approach for the 21st century.”

Findings: The authors conclude that T-cell and genetic studies are necessary before starting a robust prospective cohort type 1 diabetes trial in order to ensure success. “We will never know why the recent TrialNet oral insulin study failed without appropriate T-cell studies,” Bleich and Wagner write. “These study results are forthcoming and might provide important clues to why it did not work.”

Mouse Study May Provide Key to Therapies for Leptin Deficiency

A recent mouse study may provide a path to future cell-based therapies for leptin deficiency, according to a report published in *Endocrinology*.

Researchers led by Charles A. Harris, MD, PhD, of Washington University School of Medicine in St. Louis, point out that metabolic syndrome is a global epidemic, and about 35% of U.S. adults meet the criteria for metabolic syndrome. Obesity in particular is on the rise, resulting from increased food intake coupled with an increasingly sedentary lifestyle, but hormones are implicated as well. “Numerous contributing factors play a role in body composition, yet hormones facilitate many processes regulating energy balance,” the authors write. “A key hormone involved in the regulation of energy balance is leptin.”

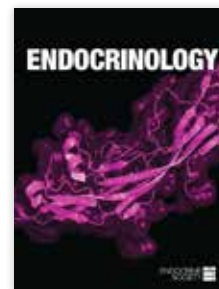
Leptin-deficient humans and mice are obese, have diabetes, are infertile, and have hepatic steatosis, according to the authors. There are leptin-replacement therapies, but these are expensive and require daily injections. So the researchers considered another approach: “Because adipocytes are the source of leptin

secretion, we investigated whether mouse embryonic fibroblasts (MEFs), capable of forming adipocytes, could be injected into *ob/ob* mice and prevent the metabolic phenotype seen in these leptin-deficient mice,” they write.

The researchers injected leptin-deficient *ob/ob* mice once with MEFs and compared them to nontreated *ob/ob* mice. They found that the treated mice (obRs) had significantly lower body weight than the nontreated mice, due to a decrease in adipose tissue mass. The treated mice have less hepatic steatosis, showed greater glucose tolerance, consumed less food, and had more energy expenditure. “Furthermore, obRs have sustained metabolic protection and restoration of fertility,” the authors write.

The authors write that there are practical implications to this study, namely that the single injection of MEFs could be far preferable for restoring fertility than daily injections of recombinant leptin. “In this report, we demonstrate a simple, effective, and sustainable method of resolving the phenotypic effects of leptin deficiency in the *ob/ob* mouse model,” the authors write.

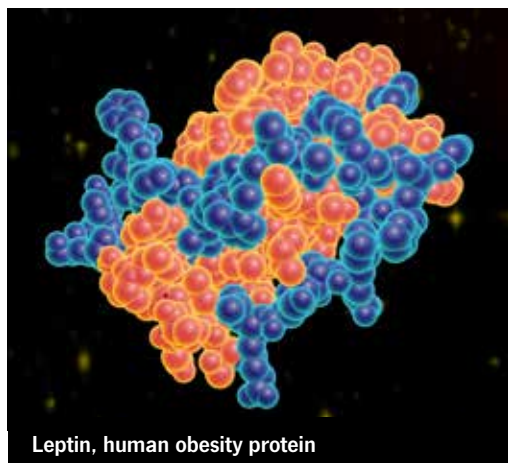
Findings: The researchers conclude by writing that MEF-derived fat pads are capable of sustaining long-term benefits and may be applied to other types of leptin deficiency, such as lipodystrophy. “Future studies may provide a better understanding of in vivo fat development and aid in the discovery of treatments for metabolic diseases,” the authors write. “Our findings suggest the possibility of future cell-based therapies for patients with leptin deficiency, lipodystrophy, or other mutations in adipose-specific genes.



“

Numerous contributing factors play a role in body composition, yet hormones facilitate many processes regulating energy balance,” the authors write. “A key hormone involved in the regulation of energy balance is leptin.

”



Leptin, human obesity protein



“

In all forms of SH that resolve at any point during follow-up, a reevaluation of thyroid function should be considered later in life, particularly during adolescence and pregnancy.

”

Review Examines Treatment of Mild Hypothyroidism in Children

Treatment of mild hypothyroidism in children should be based on a number of patient factors, according to a paper recently published in the *Journal of the Endocrine Society*.

The review, by Maria Cristina Vigone, of Vita-Salute San Raffaele University in Milano, Italy, et al., points out that mild hypothyroidism in children is different than in adults in both etiology and natural history, and that while overt hypothyroidism can severely affect growth and neurocognitive development, the effects of mild hypothyroidism haven't been fully explored or defined. “Therefore, the management of this condition is challenging and is strictly related to the age of the patients, differing between neonates and children,” the authors write.

The authors describe mild hypothyroidism in neonates and children. In neonates, mild hypothyroidism is defined by a TSH value of between 6 and 20 mIU/L and normal free T₄ (FT₄) levels. Congenital hypothyroidism (CH) and mild CH are more common in preterm or ill neonates, small infants, infants born after in vitro fertilization (IVF), and in multiple pregnancies. Initial screenings in these cases may provide normal results, so the authors write that a second round of screenings should happen at about two weeks of age or two weeks after the first screening, in accordance with European Society for Pediatric Endocrinologist (ESPE) guidelines. “Other risk factors that should be taken into account in the decision to perform the second screening test are the presence of chromosopathies, malformations, steroid treatment during pregnancy or in the neonatal period, and maternal thyroid dysfunction,” they write.

In children (after the neonatal period), mild hypothyroidism is defined as TSH of 4.5 to 10



mIU/L in the presence of normal FT₄. The authors write that most studies show mild hypothyroidism in children resolves spontaneously or persists without ever progressing to overt hypothyroidism. But the natural history of mild hypothyroidism depends on its etiology, the authors write. Hashimoto thyroiditis (HT) is one of the most frequent causes of persistent hypothyroidism in children and adolescents; elevated TSH levels are common in obese children; genetic syndromes like Down syndrome increase the risk of thyroid hormone abnormalities; iodine deficiency or excess can impair thyroid function (cough suppressants and supplements containing iodine can disrupt the thyroid); endocrine disruptors can be a factor; and so on.

All of these factors should be considered before starting treatment. The authors describe treatment approaches for all these cases. For instance, obese children may benefit from diet and lifestyle changes, and their thyroids should be checked again after weight loss. “Finally, in all forms of SH that resolve at any point during follow-up, a reevaluation of thyroid function should be considered later in life, particularly during adolescence and pregnancy,” they write.

Findings: The authors conclude by writing that the management of mild hypothyroidism in childhood is challenging. In the neonatal period, age, TSH trends, duration of thyroid dysfunction, etiology, and special risk factors described above (twins, IVF, etc.) should be considered before beginning treatment with L-T₄. In children, etiology and the degree of TSH elevation should be considered, and treatment should be tailored. “Further data are necessary prior to fully implement recommendation in the management of children with mild [hypothyroidism],” the authors write.

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USPSTF Recommends Behavioral Weight Loss Interventions to Prevent Obesity-Related Morbidity and Mortality in Adults

The U.S. Preventive Services Task Force (USPSTF) last month released a final recommendation statement and evidence summary on behavioral weight loss interventions to prevent obesity-related morbidity and mortality in adults. Based on its review of the evidence, the USPSTF recommends that clinicians offer or refer adults with a body mass index (BMI) of 30 kg/m² or higher to intensive, multicomponent behavioral interventions.

In their recommendation statement, which appeared in the *Journal of the American Medical Association*, the USPSTF points out that more than 35% of men and 40% of women in the U.S. are obese and that obesity is associated with health problems. “Obesity is also associated with an increased risk for death, particularly among adults younger than 65 years,” the authors write. “The leading causes of death among adults with obesity include ischemic heart disease, type 2 diabetes, respiratory diseases, and cancer (e.g., liver, kidney, breast, endometrial, prostate, and colon cancer).”



The USPSTF reviewed evidence on behavioral and pharmacotherapy interventions for weight loss that can be provided in a primary care setting, so weight loss surgery and nonsurgical weight loss devices were not included.

“The Task Force found that intensive, multicomponent behavioral programs are safe and effective, can help patients lose and maintain weight loss, and reduce risk of diabetes in people with elevated glucose levels,” says Task Force member Chyke A. Doubeni, MD, MPH. “There are many programs available, and one method or type of program isn’t necessarily right for everyone. We encourage people to talk to their clinician about what might work best for them.” Effective intensive behavioral interventions may include use of group sessions (at least 12 sessions or more in the first year), help people make healthy eating choices, encourage increased physical activity and goal setting, and help people monitor their weight.

“Intensive, multicomponent behavioral interventions combine interventions such as counseling on nutrition and increased physical activity,” says Task Force vice chair Alex Krist, MD, MPH. “They can be conducted in group or classroom-style sessions that are led by a moderator, use face-to-face counseling, or use technology-based interventions like smartphone applications and social networks.”

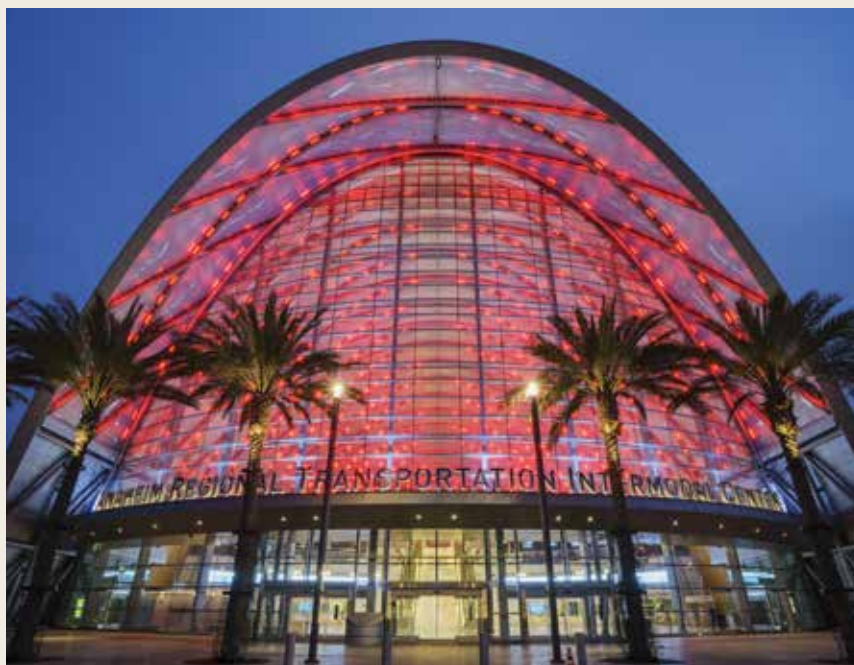
Findings: Based on their findings, the authors conclude: “The USPSTF recommends that clinicians offer or refer adults with a body mass index of 30 or higher to intensive, multicomponent behavioral interventions.” ^{EN}



“

There are many programs available, and one method or type of program isn’t necessarily right for everyone. We encourage people to talk to their clinician about what might work best for them.

”



2018 Clinical Endocrinology Update West

Anaheim, Calif., October 18 – 21, 2018

CEU West—the second of two CEUs this year — will take place at the Hyatt Regency Orange County in Garden Grove, Calif., October 18 – 21. Each year CEU brings together hundreds of endocrine clinicians for a unique learning experience and opportunities to network with expert faculty and colleagues. Attend the 70th CEU to receive the most trusted and clinically relevant information about recent advances in the field of endocrinology. The educational programming at CEU appeals to clinicians at all levels of practice, as well as fellows and other members of the clinical practice team. CEU (21.50 points) is certified for both AMA PRA Category 1 Credit(s)[™] and ABIM MOC points. www.endocrine.org/ceu/2018anaheim

8th Great Lakes Nuclear Receptor Conference (GLNRC)

Minneapolis, Minnesota, October 18 – 19, 2018

The mission of the GLNRC is to spur research and collaboration among scientists from academia and industry in the area of nuclear receptors. The conference is designed to provide an innovative format that establishes a setting for intimate, informal gatherings of established principal investigators, young faculty, and trainees. Organized by leading researchers of nuclear receptors, GLNRC is held every other year at different institutions in the Great Lakes area. The sixth meeting will take place at the University of Wisconsin-Madison.

www.glnrc.umn.edu

2nd Annual Weill Cornell Medicine Pituitary Symposium Pituitary Disorders Across the Age Spectrum

New York, N.Y., October 19, 2018
This CME course is a comprehensive overview and discussion of the evaluation, management, and treatment of the pituitary tumor. This year's conference, comprised of lectures, case-based talks, and Q&A panel sessions, will concentrate on pituitary disorders in specific populations – children,

pregnant women, men and women during childbearing years, and the elderly, with special sessions on pituitary surgery, medical management, and radiation therapy for those populations.

www.cvent.com/d/rgqsll

Third United States National Conference on Prevention of Diabetes

Atlanta, Georgia, November 16 – 18, 2018
The Third National Conference on Prevention of Diabetes is a global forum that will feature constructive debates around one of the most important public health issues, the prevention of diabetes and its complications. Although there has been progress made toward the prevention of diabetes and its complications, there is still a long way to go and many lessons to be learned. This conference provides the opportunity for all attendees to participate in high quality scientific discussions on principles of diabetes prevention and listen to the experiences from diabetes prevention programs that have been implemented in various countries.

www.diabetes-prevention.us

World Congress Insulin Resistance Diabetes and Cardiovascular Disease

Los Angeles, California, November 29 – December 1, 2018

Offering three days of CME, the World Congress Insulin Resistance Diabetes and Cardiovascular Disease is a state-of-the-art program featuring distinguished global experts presenting unique topics and lectures on the most innovative clinical research and basic science in cardiometabolic disorders. The Congress is a premier global meeting dedicated to diabetes, obesity, lipids, cardiovascular disease, and energy balance.

<https://www.wcir.org/>

55th Clinical Diabetes and Endocrinology Institute Annual CME Conference

Snowmass, Colorado, January 15 – 19, 2019

The 55th Clinical Diabetes and Endocrinology Institute Annual CME Conference will address gender affirming hormone therapy, gestational diabetes, precision medicine for thyroid tumors, Cushing's disease, neuroendocrine diseases, obesity therapies, the new ADA/EASD guidelines for type 2 diabetes management, menopause, diabetes technologies, and much more.

www.njhealth.org/diabetes-conference

SPOTLIGHT



ObesityWeek – The Obesity Society and American Society for Metabolic and Bariatric Surgery Joint Meeting
Nashville, Tennessee,
November 11 – 15, 2018

ObesityWeek is the largest obesity-centric conference in the world with the broad, comprehensive bench-to-bedside and continuum of care content. This is an international event focused on the basic science, clinical application, surgical intervention, and prevention of obesity. By combining both American Society for Metabolic & Bariatric Surgery (ASMBS) and The Obesity Society (TOS) annual meetings, ObesityWeek brings together world-renowned experts in obesity to share innovation and breakthroughs around the globe. This year, the international conference will focus on the heart, the cardiac component of obesity.

This year's multi-track schedule offers a plethora of options for all attendees including pre-conference courses, hands-on skills labs, and an industry sponsored symposium. Interdisciplinary research, education sessions, and policy programming will focus on the latest breakthroughs in the science of obesity. Conference programming will cover the full interdisciplinary spectrum and features leading experts in their respective fields.

Attendees will have the opportunity to meet face-to-face with over 4,000 surgeons, researchers, physicians, and healthcare professionals from across the globe during the exhibit. Additional networking events offer further opportunities for attendees from all fields to collaborate with others who are part of other leading obesity organizations.

In addition, attendees will enjoy all Nashville, the City of Music, has to offer with a wide variety of dining options featuring Southern fare, endless entertainment in the home of country music, and countless attractions for all ages.

Make plans to attend ObesityWeek now at www.obesityweek.com.

INTERNATIONAL ITINERARY

International Conference on Diabetes & Metabolism

Dubai, UAE, October 15 – 17, 2018

This international conference highlights recent advancements related to diabetes and cholesterol metabolism. The scientific sessions emphasize diabetes mellitus, diabetes complications, endocrinology, obesity, metabolic syndrome, epidemiology of diabetes, cholesterol metabolism, lipid metabolism, cardiovascular diseases, hypercholesterolemia, and recent advances in treatments and therapies.

www.metabolicdiseases.conferenceseries.com/

EndoBridge 2018

Antalya, Turkey, October 25 – 28, 2018

Jointly organized by the Endocrine Society, European Society of Endocrinology, and the Society of Endocrinology and Metabolism of Turkey, EndoBridge will provide a comprehensive update in the field of endocrinology. Held on October 25–28, 2018, in Antalya, Turkey, this meeting is designed for the clinical endocrinologist. The official language of the meeting is English, but simultaneous translation will be available in Russian, Arabic, and Turkish.

www.endobridge.org

Immunology of Diabetes Society Congress

London, UK, October 25 – 29, 2018

The Immunology of Diabetes Society (IDS) is a scientific society dedicated to improving understanding and treatment of type 1 diabetes. IDS organizes this Congress every 18 months in major centers in Europe, North America, and Asia at which there are scientific presentations to further this goal. All researchers with an interest in the immunology of diabetes and autoimmunity, as well as those interested in gaining a greater understanding of the disease and the development of new therapeutic strategies, are encouraged to attend the Congress. The event will include presentations from leading speakers in the field, oral and poster presentations, and opportunities for networking and discussion to move toward the common goal of understanding and eradicating type 1 diabetes.

www.ids2018.org

17th International Congress on Hormonal Steroids and Hormones and Cancer

Stellenbosch, South Africa, November 26 – 29, 2018

The objective of this conference is to promote interaction and discussion within the field of steroid hormones and hormone-dependent cancers. The conference will consist of a keynote lecture, plenary lectures, and oral and poster presentations. This conference also includes built-in time for networking as attendees enjoy the Stellenbosch winelands.

www.ichshc2018.co.za

18th International Congress of Endocrinology and 53rd SEMDSA Congress

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

The Society for Endocrinology, Metabolism and Diabetes of South Africa (SEMDSA) is hosting ICE 2018 with the 53rd annual SEMDSA Congress. The Program Organizing Committee is currently putting together a stimulating program including cutting-edge academic endocrinology for basic scientists and clinicians.

www.ice2018.org

“An important element of effective patient consultation involves providing accurate information on the pros and cons of any medical treatment and balancing the risks and benefits of it. These will lead to an informed decision by the patient. I anticipate that if the potential endocrine adverse effects were discussed with all patients prescribed opioids, a number of them would possibly opt for alternative pain management treatments.”

— **NIKI KARAVITAKI**, MSc, PhD, FRCP, University of Birmingham, U.K., who discusses the importance of informing patients of the potential effects of opioids on endocrine conditions in “Breaking the Habit” on page 26.

84%



The percentage of menopausal women who say their symptoms interfere with their daily life. 12% say they interfere “a great deal” or are debilitating.

— SOURCE: AARP, THE MAGAZINE

PRESIDENTIAL ARCHIVES

1905-1997

**Roy O. Greep**

spent most of his career at Harvard University teaching, as well as serving as Dean of the Graduate School of Dental Health. He made the crucially important observation

that male and female function could be reestablished regardless of the donor's age or gender and that sexual dimorphism were not properties intrinsic to the pituitary gland. These observations dethroned the pituitary gland as the “conductor of the endocrine symphony” and placed the hypothalamus in that lofty position, thus creating the new discipline of neuroendocrinology. He served as president of the Endocrine Society from 1965 to 1966.

BY THE NUMBERS



48

The number of U.S. states where adult obesity rates are above 25%. No state showed significant improvements in obesity during the past year.

— SOURCE: STATE OF OBESITY 2018: BETTER POLICIES FOR A HEALTHIER AMERICA



70

A study from the University of Toronto found that people over the age of 70 have higher cognitive function in autumn. The difference between participants' brains in spring, compared to autumn, was the equivalent to FOUR years of aging.

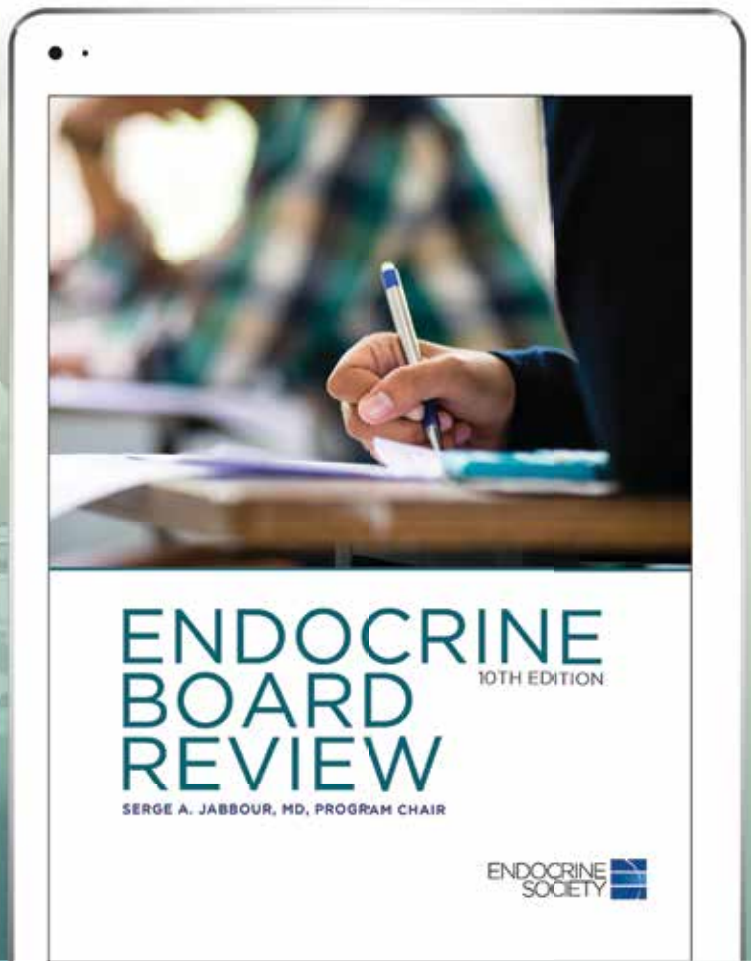
— SOURCE: THE TELEGRAPH



67%

The percentage of Americans over 50 having more than one chronic disease, with type 2 diabetes being one of the most common.

— SOURCE: DIABETES FORECAST



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DEEP IN THE Heart OF TEXAS

BY GLENDA FAUNTLEROY SHAW

Pediatric endocrinologist Stephanie Sisley, MD, at the Texas Children's Hospital in Houston talks to *Endocrine News* about her research looking at genetic causes of obesity in children and why diet and exercise are simply not enough for these patients.

For children and adolescents between the ages of 2 and 19 years, the prevalence of obesity is 18.5% — affecting a staggering 13.7 million, according to the Centers for Disease Control and Prevention (CDC). As the incidence continues to rise, treatment has mainly focused on changing the child's diet and exercise habits.

Stephanie Sisley, MD, a pediatric endocrinologist at Texas Children's Hospital in Houston, is taking steps to expand the focus to the rare genetic causes of severe obesity. According to Sisley, in children and adolescents, severe obesity is defined as at or above 120% of the sex-specific 95th percentile on the CDC BMI-for-age growth charts. She estimates 5%–10% of all severe obesity may be caused by genetic disorders such as melanocortin-4 receptor (MC4R) deficiency, proopiomelanocortin (POMC) deficiency, Bardet Biedl Syndrome, and Prader Willi Syndrome.



Photo: Texas Children's Hospital



Stephanie Sisley, MD

“ It takes years of specialized training in genetics or obesity to be able to distinguish between these very rare diseases. It’s not part of a pediatrician’s training to be able to identify all these different disorders.”

Endocrine News talked with Sisley to learn more about her efforts to showcase these genetic causes, and the work she’s doing to ease the trend of childhood obesity.

EN: With 5%–10% of severely obese children who may be linked to genetic factors, how common is it for a pediatrician to refer the child to an endocrinologist?

SISLEY: Most of the time, it depends on how the child is presenting. A child that is presenting as a normally developing child — talking on time, meeting all their milestones on time, and is just gaining weight rapidly — the pediatrician will probably start talking about diet and exercise changes. Where a child gets referred is going to be dependent on where a pediatrician practices; there are certain places in the country where endocrine has a big presence in obesity. There are other parts of the country where it’s general pediatrics or a gastroenterology division. In a child having developmental difficulties, those kids get referred pretty quickly to genetics. That’s a more common presentation that a pediatrician is aware of.

EN: Do you think most pediatricians understand the aspect that a patient’s severe obesity can be linked to a rare genetic disorder?

SISLEY: When I said 5% – 10% of severe obesity was likely genetic, that’s true. Except within that range, you’re talking about anywhere from 20 to almost 80 disorders. While there are a couple disorders that are actually more common, a lot of them are extremely rare. So, it takes years of specialized training in genetics or obesity to be able to distinguish between these very rare diseases. It’s not part of a pediatrician’s training to be able to identify all these different disorders.

When a child is developmentally delayed and obese, those are big red flags. What I think is missing in a lot of pediatrics training is what to do with children who don’t have cognitive deficits. Those are kids who may not get flagged by a pediatrician because either they’re actually not aware of these super-rare disorders or because the child isn’t presenting in the classic way.

For instance, for POMC Deficiency most pediatricians have

been taught that if you're obese and have red hair, that's the red flag for POMC Deficiency. But red hair has not been shown to be found in people who aren't Caucasian necessarily, so if you're Hispanic or African American, you may not have red hair. And the other thing is, if you're older than two or three, your red hair may have actually turned brown. So, if you happen to see them at age six, maybe they don't have the red hair anymore. A pediatrician isn't aware of those minute changes because they haven't been trained in all these specific details of all these different types of syndromes.

EN: Can you explain the role that MC4R plays in obesity? It impacts the satiety signal?

SISLEY: Correct. If you don't have the melanocortin-4 receptor, then you feel hungry all the time. So, a lot of these disorders — POMC deficiency, leptin deficiency, leptin receptor deficiency — all have similar phenotypes because they all cause you to be super-hungry because you don't have that melanocortin-4 receptor.

EN: For children who may have impaired MC4R signaling due to rare genetic disorders, it's not enough to have diet changes or increased exercise, so what's their course of treatment?

SISLEY: Unfortunately at the moment, there is no treatment for them.

EN: Tell us more about the clinic at Texas Children's Hospital you're working to open to address these genetic disorders.

SISLEY: We're in the beginning stages of setting up a clinic where toddlers with obesity can be referred and I'll be the staff endocrinologist and there will be a geneticist. We will just assess whether the child potentially has a disorder and then be able to do the genetic testing. Ordering genetic testing is very difficult. There's a lot of insurance loopholes to figure out what will be covered, and these tests are very expensive. The last thing you want is to do a test on a child and then have the parent come back to you with a \$3,000 bill. So, this would allow for the pediatrician not to worry about that and we would help with whatever testing needs to happen. And in probably 95% or more of these children, we won't find any genetic cause.

“ What I think is missing in a lot of pediatrics training is what to do with children who don't have cognitive deficits. Those are kids who may not get flagged by a pediatrician because either they're actually not aware of these super-rare disorders or because the child isn't presenting in the classic way. ”



“ We need to give these families something better than just “diet and exercise.” They have deficiencies in the regulation of their body weight and like any other medical disorder, we need to find treatments that help solve the problem. That’s what I’m excited to hopefully be a part of.”



However, then we can send them back to their pediatrician for continued management without the family or pediatrician being concerned that “something” has been missed.

EN: When children are diagnosed with a rare genetic disorder of obesity like MC4R deficiency, what’s the long-range goal for this population?

SISLEY: Because these disorders are rare, there’s not a lot of data on using any medications, even those that are available off-label. We don’t have access to any anti-obesity medications in the pediatric world right now, unfortunately, but in the adult world there are about six FDA-approved medications for obesity. Some of these medicines may actually be somewhat effective for some people. So the more that we can know how many people are affected, we can start to phenotype them more and start to publish studies to spread the information.

For instance, drugs that are not approved at all for obesity but are approved in children and are used all the time are the stimulants for ADHD, like Adderall, Vyvanse, and Ritalin. However, one of the main side effects of these medications is decreased appetite. Vyvanse is actually approved in adults for binge-eating syndrome. Any parent who has their child on an ADHD medication can tell you that they struggle with keeping the weight on because people don’t eat on these medications. So, in our Texas Children’s center we’ll have the infrastructure to do research and clinical trials on the effect of medications in patients with these rare disorders — even if it is only two or three patients — and it will give us this type of information.

Since utilizing currently available drugs off-label can create ethical dilemmas for physicians, performing the clinical research to determine if drug “A” works, even if it only works half as well as it normally would, is really important. Bottom line is that over time, we need to give these families something better than just “diet and exercise.” They have deficiencies in the regulation of their body weight and like any other medical disorder, we need to find treatments that help solve the problem. That’s what I’m excited to hopefully be a part of. **EN**

GLENDA FAUNTLEROY SHAW IS A CARMEL, IND.-BASED FREELANCE WRITER AND A REGULAR CONTRIBUTOR TO ENDOCRINE NEWS.



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Breaking *the* HABIT:

BY DEREK BAGLEY

Opioid-Induced Endocrinopathies

Aside from the chances of becoming addicted or even dying from an overdose, opioids have also proven damaging to the endocrine system. An awareness by both patients and physicians is a much-needed first step to combatting these often severe conditions.



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Opioids have been grabbing headlines for the past couple of years. They've become an epidemic, and the U.S. is right in the center of it. In 2014, the U.S. used almost 70% of the world's opioids. Vicodin is the most prescribed drug in the U.S.

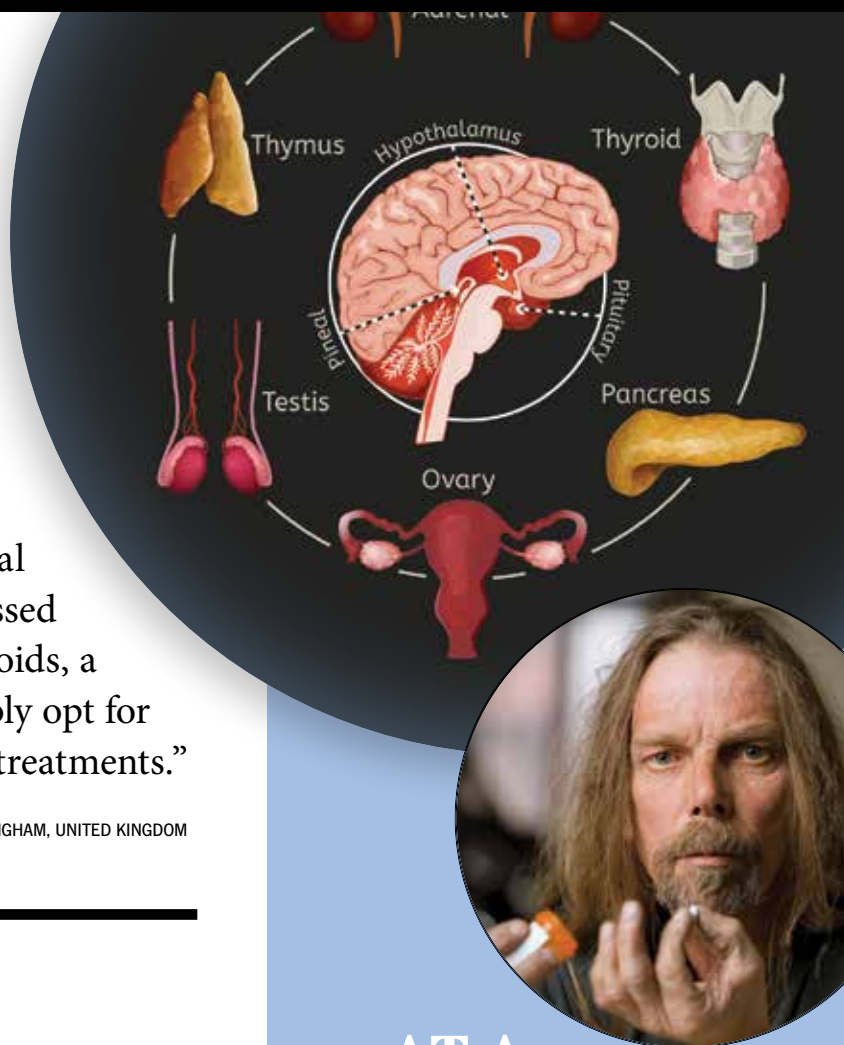
And it's not just pain management physicians prescribing these drugs. Family practitioners, cardiologists, neurologists, nephrologists, and so on are all prescribing opioids to their patients for acute and chronic pain. These drugs grab headlines because they can lead to addiction and death — according to the American Society of Addiction Medicine, of the 52,000 lethal drug overdoses in 2015, 20,000 of those deaths were from prescription painkillers, while about 13,000 of those fatalities were from heroin. (Most heroin users started out by abusing prescription opioids.) These are probably well-known statistics, but what's often overlooked are these drugs' multiple effects on the endocrine system.

Niki Karavitaki, MSc, PhD, FRCP, of the University of Birmingham, United Kingdom, gave a Meet-the-Professor talk at **ENDO 2018** in Chicago on how chronic use of opioids can lead to multiple endocrinopathies. She says that currently there is a lack of data on the prevalence of opioid-induced endocrinopathies and on predictive factors for who will develop them. “It seems that awareness of the endocrine effects of opioids amongst healthcare professionals prescribing or looking after patients on these agents is rather limited and possibly this is one of the reasons the problem has not been addressed in an effective way in clinical practice,” she says.

“ An important element of effective patient consultation involves providing accurate information on the pros and cons of any medical treatment and balancing the risks and benefits of it. These will lead to an informed decision by the patient.

I anticipate that if the potential endocrine adverse effects were discussed with all patients prescribed opioids, a number of them would possibly opt for alternative pain management treatments.”

— NIKI KARAVITAKI, MSC, PHD, FRCP, UNIVERSITY OF BIRMINGHAM, UNITED KINGDOM



Admitting There's a Problem

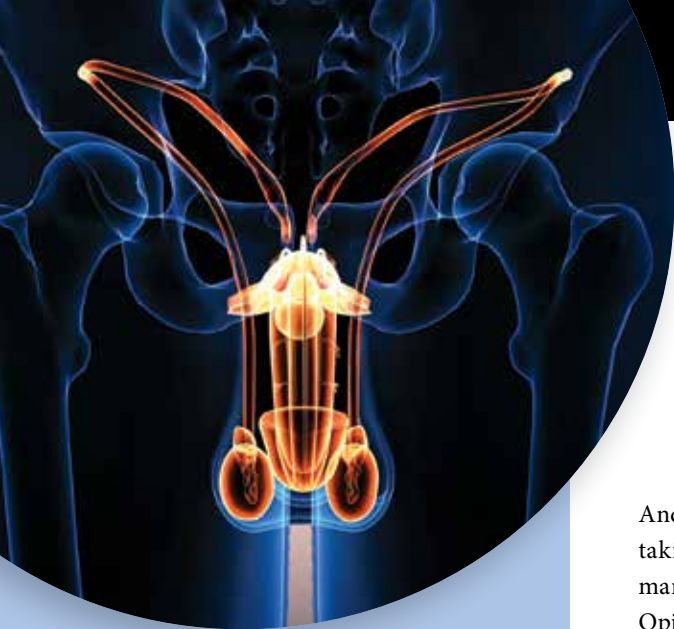
The first step to solving any problem is admitting there is one, and in this case, that can go for the patients as well as the physicians who treat them. Karavitaki says that one of the contributing factors for this so-called “opioid crisis” is the inappropriate prescribing of these drugs. She writes in her *Meet-the-Professor Clinical Case Management* piece “Opiate-Induced Endocrinopathies” that prescribing of opioids has increased fourfold in the U.S. since the mid-1990s, and from 2003 to 2013, opioid prescribing nearly doubled. In her clinical practice, she was seeing a number of patients on various types and doses of opioids who had hypogonadism.

According to Karavitaki, opioids can suppress the hypothalamo/pituitary/gonadal system and in the long term, can reduce bone mineral density. These drugs also suppress the hypothalamo/pituitary/adrenal system and reduce glucocorticoid secretion.

But there remains a lack of awareness or appreciation for how opioids affect the endocrine system. “Apart from the gonadal axis, robust data on the impact of opioids on other parts of the endocrine system and its clinical significance are lacking,” Karavitaki says. “One of the main reasons for this is the under-recognition of the problem and its consequences, thereby attracting limited

AT A GLANCE

- ▶ Opioids can lead to addiction and even death, but they also have multiple effects on the endocrine system.
- ▶ Most notably, opioids can suppress the hypothalamo/pituitary/gonadal system and in the long term, can reduce bone mineral density.
- ▶ Physicians and patients should be aware of this problem and not shy away from discussing potential opioid-induced endocrinopathies.



“ Apart from the gonadal axis, robust data on the impact of opioids on other parts of the endocrine system and its clinical significance are lacking. One of the main reasons for this is the under-recognition of the problem and its consequences, thereby attracting limited attention at a research level. **The first steps for improving the landscape of opioid-induced endocrinopathy is provision of adequate funding for research and engaging the endocrine academic community on this hot topic.**”

— NIKI KARAVITAKI, MSC, PHD, FRCP, UNIVERSITY OF BIRMINGHAM, UNITED KINGDOM

attention at a research level. The first steps for improving the landscape of opioid-induced endocrinopathy is provision of adequate funding for research and engaging the endocrine academic community on this hot topic.”

Making the Connection

And patients may not be making the connection between the opioids they're taking and these endocrinopathies. Or they may be hesitant to bring up the manifestations of an endocrinopathy like hypogonadism with their physician. Opioid-induced hypogonadism remains under-diagnosed partly because men may be embarrassed to tell their doctors they're suffering from lower libido or ability to perform, and partly because there is an under-appreciation for this connection among physicians.

“Hypogonadism in males manifests with erectile dysfunction and reduced libido,” Karavitaki says. “The patients may feel uncomfortable to discuss these manifestations with their physician or may relate them with other factors like aging, presence of other comorbidities, or pain and not raise them during clinic consultation. On the other hand, the clinicians may lack awareness of these sequelae or under-appreciate their significance, missing, unfortunately, a significant clinical problem.”

Karavitaki argues that doctors treating men on opioids need to think about testing testosterone levels, as well as the need for more studies and the development of guidelines, since these drugs are so prevalent. Other effective measures in solving this problem would be enhancing patient awareness and warning them about the possibility of these adverse effects before opioid initiation and encouraging them to report relevant manifestations should any develop.

“From the clinician's perspective,” Karavitaki says, “given that these agents are prescribed by a wide range of health professionals (who may not necessarily have good endocrine background), vital points are educating and alerting them for actively enquiring about clinical manifestations and for monitoring for endocrinopathy during opioid treatment.”

An Elegant Solution?

The opioid epidemic doesn't seem to be going away any time soon. Steps to address the overall problem are sometimes met with criticism and pushback from patients' groups who cry foul at more extreme measures like severely limiting who can receive opioids for their legitimate chronic pain. Meetings among physicians' groups and associations are held. Plans are laid out. Prescription drug monitoring programs have been developed, but they have barriers to optimal use. Even the Trump administration has made solving the opioid epidemic part of its platform.



According to the American Society of Addiction Medicine, of the 52,000 lethal drug overdoses in 2015, 20,000 of those deaths were from prescription painkillers, while about 13,000 of those fatalities were from heroin. (Most heroin users started out by abusing prescription opioids.)

And while the government and patients' and physicians' groups are still struggling with the best ways to tackle this problem, an audience member in that **ENDO** session stood up and commented on a seemingly elegant and possibly easy solution, especially as it relates to how opioids affect the endocrine system. "If you tell men up front that opioids decrease sex drive and make them feel weaker, they will often opt for alternative treatment," she said.

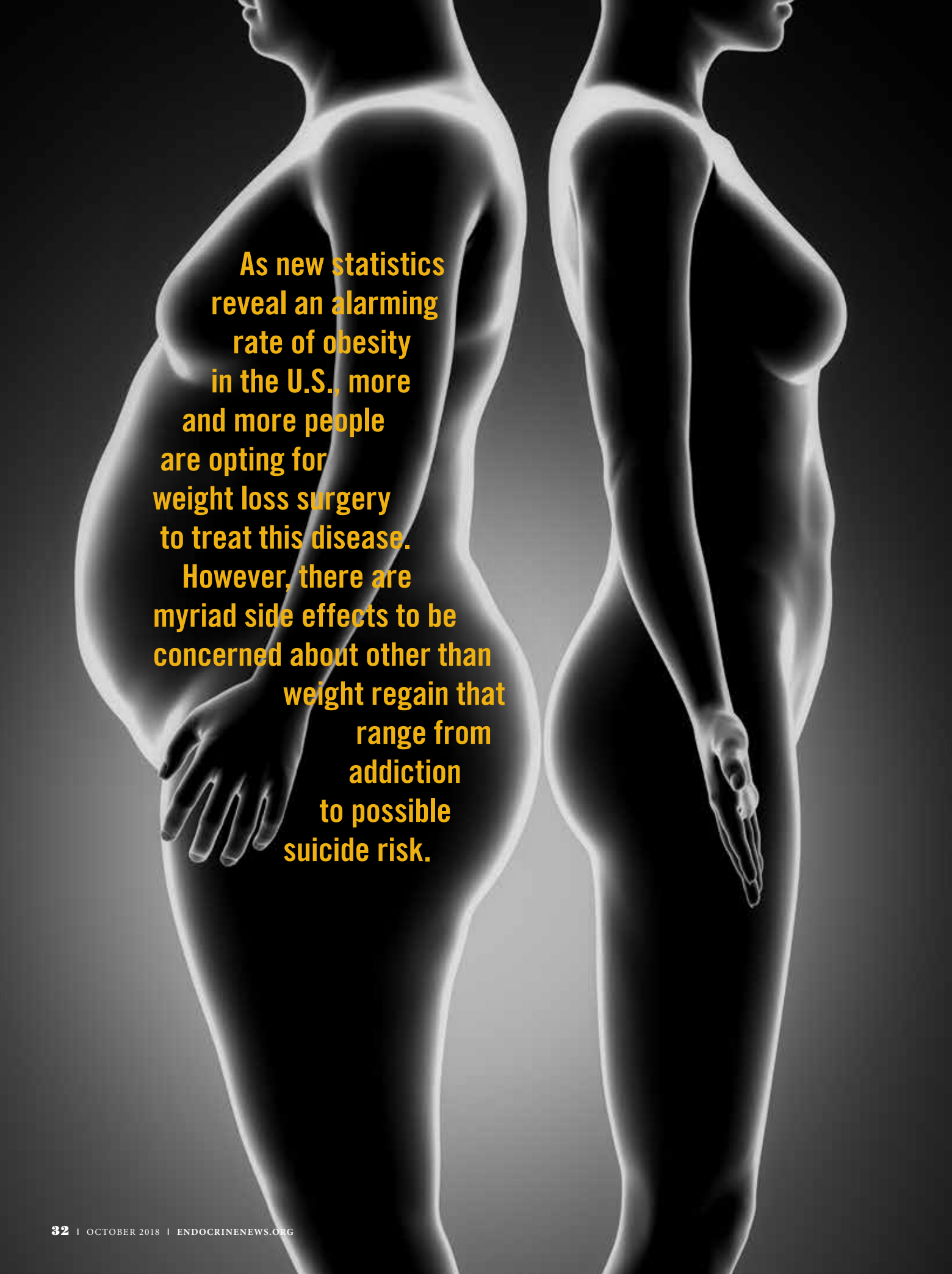
"An important element of effective patient consultation involves providing accurate information on the pros and cons of any medical treatment and balancing the risks and benefits of it," Karavitaki says. "These will lead to an informed decision by the patient. I anticipate that if the potential endocrine adverse effects were discussed with all patients prescribed opioids, a number of them would possibly opt for alternative pain management treatments."

But for Karavitaki, endocrinologists and others who are researching how opioids affect the endocrine system still have work to do. Acute administration of opioids and chronic administration of these drugs affect parts of the endocrine system in different ways. And while hypogonadism is the most well recognized of these opioid-induced endocrinopathies, more research is needed to clarify the prevalence and clinical significance of the other effects these drugs have on the endocrine system. "Increasing awareness of the endocrine sequelae amongst clinicians and patients is vital," Karavitaki says, "particularly given the substantial growth in the use of these agents over the past two decades." **EN**

“ It seems that awareness of the endocrine effects of opioids amongst healthcare professionals prescribing or looking after patients on these agents is rather limited and possibly this is one of the reasons the problem has not been addressed in an effective way in clinical practice.”

— NIKI KARAVITAKI, MSC, PHD, FRCP, UNIVERSITY OF BIRMINGHAM, UNITED KINGDOM

BAGLEY IS THE SENIOR EDITOR OF *ENDOCRINE NEWS*. HE WROTE ABOUT A VON HIPPEL-LINDAU PATIENT'S STORY IN THE AUGUST ISSUE.



As new statistics reveal an alarming rate of obesity in the U.S., more and more people are opting for weight loss surgery to treat this disease. However, there are myriad side effects to be concerned about other than weight regain that range from addiction to possible suicide risk.

Unforeseen **Consequences:** Bariatric Surgery Side Effects

BY DEREK BAGLEY

Last month, the Centers for Disease Control released updated statistics on adult obesity in the U.S. One statistic in particular that raised eyebrows and grabbed headlines – the prevalence of obesity was as much as 35% or more in seven states (Alabama, Arkansas, Iowa, Louisiana, Mississippi, Oklahoma, and West Virginia).

This again points to the continuing obesity epidemic in the U.S., and while most experts say more people are becoming obese because of increased calorie intake and increasingly sedentary lifestyles, obesity is a physiological disease and it's often more complicated to control than “eat less and move more.” Lifestyle changes remain the first line of treatment, but for many patients, bariatric surgery is the most effective for long-term weight loss.

But weight loss surgeries – Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy (most centers no longer perform laparoscopic adjustable gastric banding [LAGB] because it's not as effective) – are procedures that carry both short-term and long-term effects, some of which can be harmful without proper treatment. And while most obesity experts are aware of what's at stake for patients undergoing bariatric surgery, it's important to keep in mind the physical and psychological toll these surgeries can have on these patients.

Unwanted Attention

People with obesity are at a higher risk for several comorbid conditions, including diabetes and heart disease, and the short-term benefits of bariatric surgery are marked improvements in these conditions. Bariatric surgery can even mean remission of pre-diabetes and type 2 diabetes. The surgery can help resolve hypertension and let patients discontinue the medications they take for high blood pressure. And that's not to mention the weight loss itself.

“Bariatric surgery is highly effective and although there is weight regain, the weight loss associated with bariatric surgery still surpasses weight loss with other



Bariatric patients have more psychopathology than the general population even before surgery. Although mood does improve immediately after surgery, depression can often re-emerge two to three years later, often worsened by body image disturbance, psychiatric medication malabsorption, and disappointment in post-surgery lifestyle.

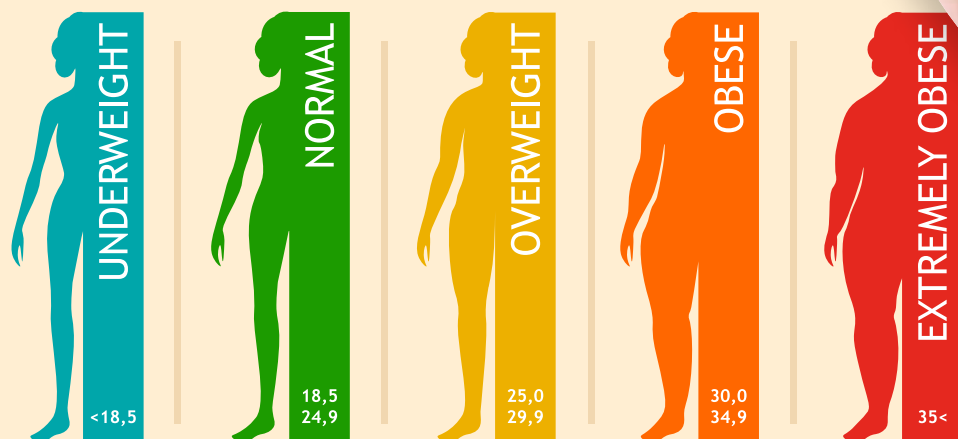
“ Although many centers do a psychological assessment, this can be rather perfunctory and many patients, in retrospect, had mental health diagnoses or behaviors that should have precluded them from undergoing surgery.”

— AMY E. ROTHBERG, MD, PHD, ASSOCIATE PROFESSOR OF INTERNAL MEDICINE,
DIVISION OF METABOLISM, ENDOCRINOLOGY AND DIABETES (MEND);
DIRECTOR, MEND INVESTIGATIONAL WEIGHT MANAGEMENT CLINIC,
UNIVERSITY OF MICHIGAN, ANN ARBOR

conventional methods and the weight regain that is reported is usually 10% to 15% (although we see more weight recidivism post sleeve and it's occurring earlier on post-surgery),” says Amy E. Rothberg, MD, PhD, associate professor of internal medicine in the Division of Metabolism, Endocrinology and Diabetes (MEND) and director of the MEND Investigational Weight Management Clinic at the University of Michigan in Ann Arbor. “But any interval of diabetes remission is good since it will provide a longer interval of the potential to avoid complications related to [type 2 diabetes]. The short-term improvement in metabolic effects may be related to markedly reduced caloric intake and hepatic insulin sensitivity.”

But this weight loss can invite a lot of unwanted attention from family and friends and acquaintances of the patient, according to Kasey Goodpaster, PhD, a psychologist in the Bariatric & Metabolic Institute at Cleveland Clinic. It's very common for patients to be asked invasive questions after they lose weight. The patient might have to field questions

BODY MASS INDEX



about how much weight they lost, what they weighed before, and other questions they may not want to answer, especially if they are embarrassed that they had to “resort” to surgery to lose weight. Other social reactions depend on whether they had been open beforehand about their decision to pursue surgery. If they kept it private, they are more likely to hear questions about how they lost weight and concerns about whether they are eating enough. If they had shared their decision to pursue surgery, they are more likely to hear questions about the surgery itself and whether they “should” be eating certain foods.

“Behavioral health professionals help patients role-play how they will handle these interactions using assertive communication skills,” Goodpaster says. “For patients who are embarrassed that they needed to resort to surgery, we help break down this internalized stigma by educating them about the biological forces resisting weight loss and why the majority of diets fail. Bariatric surgery allows patients’ bodies to work with them to lose weight, rather than battling against them.”

Addiction Transfer

Any patient who undergoes surgery is usually prescribed some sort of opioid to help cope with the post-operative pain, but new research suggests that bariatric patients are more likely to develop chronic opioid use, and this occurs more often in patients who had postoperative complications or lost less weight. Bariatric patients are also more prone to abuse and are at risk of becoming addicted to alcohol. Studies have shown that drugs, alcohol, and food trigger similar reward responses in the brain, and binge

AT A GLANCE

- ▶ Bariatric surgery is an effective tool for long-term weight loss in patients with obesity; however, it is a major surgery that does carry with it some short- and long-term side effects.
- ▶ Physicians and patients should be aware of the physical and psychological side effects that can occur after bariatric surgery.
- ▶ Thorough psychological assessment before the surgery and careful follow-up post-surgery are necessary for bariatric patients.

“

For many, bariatric surgery is considered the ‘last resort,’ and if it does not result in the quality of life improvements one expected, it could lead to despair. It is crucial to educate patients about these risks and monitor them postoperatively.”

— KASEY GOODPASTER, PHD, PSYCHOLOGIST, BARIATRIC & METABOLIC INSTITUTE, CLEVELAND CLINIC, CLEVELAND, OHIO

eating can be construed as an “addiction.” Alcohol and drugs could substitute for overeating following bariatric surgery.

“Some have attributed increased rates of alcohol and opioid addiction to ‘addiction transfer’ (i.e., when some bariatric patients can no longer use food to soothe negative emotions, they may turn to another substance that provides a numbing effect),” Goodpaster says. “However, this theory is difficult to prove, and the majority of bariatric patients do not feel addicted to food before or after surgery. However, if patients feel as though addiction transfer did occur, behavioral health professionals help patients grieve the loss of food and develop alternative, healthier coping mechanisms. We refer to substance abuse specialists when needed.”

Rothberg explains the physical mechanisms for increased alcohol abuse following bariatric surgery. Alcohol is easily consumed and digested and leads to disinhibition and impulsivity. “There are also changes in absorption as the alcohol dehydrogenase is primarily in the stomach and since the stomach is significantly reduced, so is the enzyme,” she says. “Patients may more rapidly absorb alcohol and have greater acute and longer response to the effects of alcohol, leading to other negative behaviors, like suicide.”

Suicide Risks

In July 2016, Backman et al., published a paper in the *British Journal of Surgery* titled “Alcohol and substance abuse, depression and suicide attempts after Roux-en-Y gastric bypass surgery.” The researchers examined data from a Swedish registry who had undergone RYGB between 2001 and 2010 and found that these patients were almost three times more likely to attempt suicide than a general population

reference group. Rothberg says that the rate may be even higher. “This included only those who had been hospitalized so it probably underestimates the risk because it did not include those who had thoughts of suicide or who did not seek treatment,” she says. “He also published another study looking at self-harm emergencies, including suicide attempts and found that these increased by 50% after RYGB. Again, this looked at individuals who were seen in a hospital, so the actual rate is probably higher.”

But Rothberg also points out that 93% of the people in this study who had engaged in self-harm had a prior mental health diagnosis. “Although many centers do a psychological assessment, this can be rather perfunctory and many patients, in retrospect, had mental health diagnoses or behaviors that should have precluded them from undergoing surgery,” she says.

Goodpaster says that Cleveland Clinic does thorough assessments, as do most comprehensive bariatric programs, with psychologists embedded in the multidisciplinary team.

In 2010, *The American Journal of Medicine* published a paper by Tindle, et al., titled “Risk of suicide after long-term follow-up of bariatric surgery.” The researchers examined bariatric records on Pennsylvania residents between 1995 and 2004 and matched the data to reference population from the Division of Vital Records in the Pennsylvania State Department of Health, and found an overall suicide rate of 6.6 per 10,000 (13.7 per 10,000 among men and 5.2 per 10,000 among women). Thirty percent of the suicides occurred within the first two years following surgery and almost 70% occurred within three years. Comparable sex matched U.S. suicide rates among those aged 35 to 64 were 2.4 per 10,000 for men and 0.7 per 10,000 for women. These authors concluded that



Treatment and monitoring should be ongoing after bariatric surgery. It is imperative for patients who undergo go weight-loss surgery to have long-term follow-up just as any patient would who has a chronic disease.

there was a substantial excess of suicides among patients who had undergone bariatric surgery.

“A number of psychosocial issues that might be involved are discussed in those papers,” Rothberg says, “including inadequate weight loss or weight regain, potentially superimposed on a unrealistic expectations, lack of improvement in quality of life after surgery, continued or recurrent physical mobility restrictions, persistence or recurrence of sexual dysfunction and relationship problems, low self-esteem, and a history of child maltreatment including sexual abuse.”

Bariatric patients have more psychopathology than the general population even before surgery, and Goodpaster says they have higher rates of depression and past suicide attempts, which are a major risk factor for suicide. Mood does improve immediately after surgery, but depression re-emerges two to three years after surgery and could possibly be worsened by body image disturbance, psychiatric medication malabsorption, and disappointment in the extent to which

life improved after surgery. “For many, bariatric surgery is considered the ‘last resort,’ and if it does not result in the quality of life improvements one expected, it could lead to despair,” she says. “It is crucial to educate patients about these risks and monitor them postoperatively.”

“Recurrence of medical problems, especially if initially the conditions resolved, may contribute to a sense of failure and disappointment, which theoretically may increase suicide risk,” Rothberg says. “Also, suicide rates are known to be elevated in those with diabetes.”

Ongoing Management

But while these findings are concerning and even alarming, for patients with severe obesity who are well selected, bariatric surgery offers myriad benefits. “But, ironically, those who derive the greatest benefit are indeed those who adhere to the prescription for low calorie diet, regular physical activity, and other behaviors that are part of a comprehensive intensive lifestyle program (that may have resulted in weight



Bariatric surgery can often change neurophysiology around weight regulation where some patients may experience an earlier sense of fullness, less hunger, and even an aversion to foods they once craved.

“For patients who are embarrassed that they needed to resort to surgery, we help break down this internalized stigma by educating them about the biological forces resisting weight loss and why the majority of diets fail. Bariatric surgery allows patients’ bodies to work with them to lose weight, rather than battling against them.”

— KASEY GOODPASTER, PHD, PSYCHOLOGIST, BARIATRIC & METABOLIC INSTITUTE, CLEVELAND CLINIC, CLEVELAND, OHIO

loss success without surgery),” Rothberg says. “Still, bariatric surgery can offer leverage over lifestyle alone in that it facilitates early and robust weight loss (a motivator) and changes in some of our neurophysiology around weight regulation and reward such that patients may experience an earlier sense of fullness, less hunger, and even changes in taste making the previous ‘yummy’ foods less palatable. Those changes can help reduce food intake leading to continued weight loss or longer weight loss maintenance.”

“I always tell my patients that bariatric surgery is a ‘stomach surgery,’ not a ‘brain surgery,’ and much of eating is triggered by thoughts, feelings, and situations which will remain after surgery if not tackled proactively,” Goodpaster says. “Loss of control eating before surgery is likely to re-emerge, but it manifests differently.”

For example, she says, one study indicated that over 60% of patients who met criteria for binge eating disorder before surgery developed graze eating (i.e., eating small/modest amounts of food continuously throughout the day) after surgery. Graze eating is particularly problematic because the post-operative stomach does not preclude it, and it can contribute to weight regain. “For patients with pre-surgical eating disorders, it is vital to provide treatment before surgery and to educate patients about how to prevent relapse,” Goodpaster says. “Treatment and monitoring should be ongoing after surgery.”

And that’s the problem with bariatric surgery – the follow-up. It is imperative for patients who undergo bariatric surgery to have long-term follow-up. “Bariatric surgery does not take away the requirement to implement and continue lifestyle modifications and to ensure ongoing success,” Rothberg says. “They must have ongoing management (just like any chronic disease).” ^{EN}

BAGLEY IS THE SENIOR EDITOR OF *ENDOCRINE NEWS*. IN THE SEPTEMBER ISSUE, HE WROTE ABOUT HOW A DIET RICH IN SEAFOOD COULD POTENTIALLY HELP COUPLES GET PREGNANT.

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Q&A:



Phyllis W. Speiser, MD

***Endocrine News* talks with
Phyllis W. Speiser, MD,
chair of the task force that
created the latest Endocrine
Society Clinical Practice
Guideline on congenital
adrenal hyperplasia.**

In September, the Endocrine Society issued a clinical practice guideline on treating patients with congenital adrenal hyperplasia. Titled “Congenital Adrenal Hyperplasia Due to Steroid 21-hydroxylase Deficiency: An Endocrine Society Clinical Practice Guideline,” this is an update to the previous guideline on this topic, which the Society published in 2010. The updated guideline was published online September 27 and will appear in the November 2018 print issue of *The Journal of Clinical Endocrinology & Metabolism*.

Phyllis W. Speiser, MD, from the Cohen Children’s Medical Center of New York and Northwell Health, is the chair of the writing committee that authored the guideline. She shared her thoughts with *Endocrine News* about how she hopes this guideline will aid healthcare professionals who treat patients with congenital adrenal hyperplasia (CAH) as well as prove to be a vital resource for those in other specialties.

ENDOCRINE NEWS: What was the main reason for the publication of the CAH guideline – what drove the decision and why now?

PHYLLIS W. SPEISER: CAH is among the more common inherited endocrine disorders. The Endocrine Society felt it was important to update the previous guideline to reflect newer published data and refresh our thinking on this subject. One example is the accumulating evidence that there are potential serious long-term adverse effects of dexamethasone given in utero. Others include prospects of advanced reproductive techniques, such as pre-implantation genetic diagnosis and non-invasive prenatal diagnosis in managing pregnancies at risk for CAH.

EN: What are your hopes for the impact of the guideline on endocrine standards of care for congenital adrenal hyperplasia?

PWS: Our writing committee hopes that healthcare professionals who treat people affected with CAH will use this guideline as a key resource for best practices and in planning management of individual patients. We are concerned about the lack of care continuity between the pediatric and

“We are concerned about the lack of care continuity between the pediatric and adult age groups and expect this guideline will clarify the need for ongoing care throughout the life cycle.”



“We feel strongly that the approach to the medical, surgical, and psychological management of CAH should involve carefully considered shared decisions among families, their healthcare teams, and support groups. Management should be individualized, based on expert opinion supported by the strongest available evidence.”

adult age groups, and expect this guideline will clarify the need for ongoing care throughout the life cycle.

EN: How do you expect other medical specialties to be affected by the Guideline Writing Committee's recommendations?

PWS: Besides endocrinologists, an individual with CAH over a lifetime will probably consult with multiple specialists, including geneticists, urologists, gynecologists, obstetricians, reproductive endocrinologists, and mental health professionals. We've tried to incorporate recommendations covering the gamut of these disciplines.

EN: What are the key take home messages for patients in this guideline?

PWS: The key take home messages of our CAH guideline are: The need for prompt and accurate diagnosis of classic CAH in newborns, ongoing vigilance to ensure normal growth and puberty, and establishing continuity of care in adult life. The lay public and the medical community should be made aware that CAH is distinct from other differences in sex differentiation. We feel strongly that the approach to the medical, surgical, and psychological management of CAH should involve carefully considered shared decisions among families, their healthcare teams, and support groups. Management should be individualized, based on expert opinion supported by the strongest available evidence. **EN**

This guideline is co-sponsored by the CARES Foundation, European Society of Endocrinology, European Society for Paediatric Endocrinology, Societies for Pediatric Urology, and the Pediatric Endocrine Society.

Aside from Speiser, other members of the guideline-writing task force included: Wiebke Arlt, University of Birmingham, Birmingham, UK; Richard J. Auchus, University of Michigan, Ann Arbor; Laurence S. Baskin, University of California San Francisco and UCFS Benioff Children Hospital, San Francisco; Gerard S. Conway, University College London Hospitals, London, UK; Deborah P. Merke, National Institutes of Health Clinical Center and The Eunice Kennedy Shriver National Institute of Child Health and Human Development, Bethesda, Md.; Heino F. L. Meyer-Bahlburg, New York State Psychiatric Institute and Columbia University, New York; Walter L. Miller, University of California San Francisco and UCFS Benioff Children Hospital, San Francisco; M. Hassan Murad, Mayo Clinic Evidence-based Practice Center, Rochester, Minn.; Sharon E. Oberfield, Columbia University and New York-Presbyterian, New York; and Perrin C. White, University of Texas Southwestern Medical Center, Dallas.

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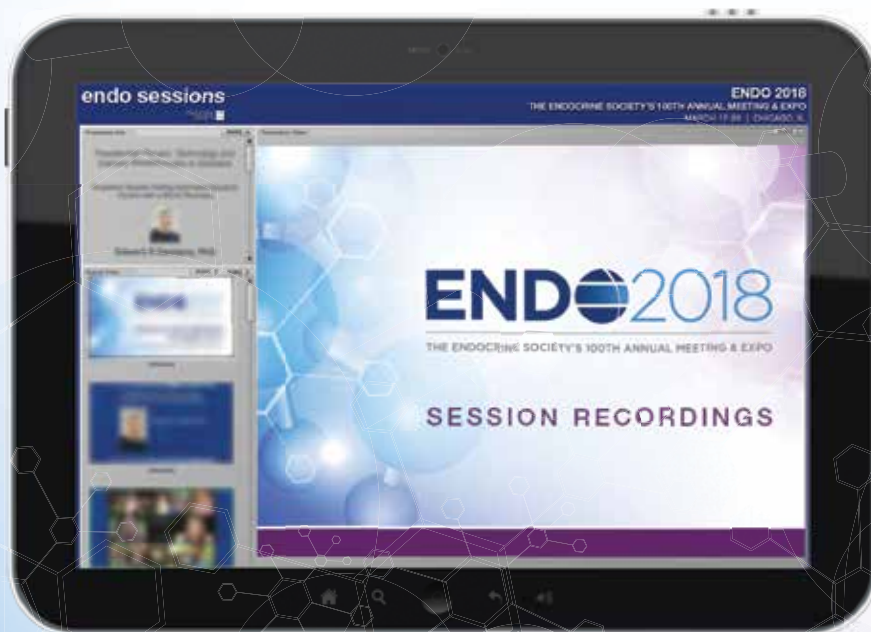
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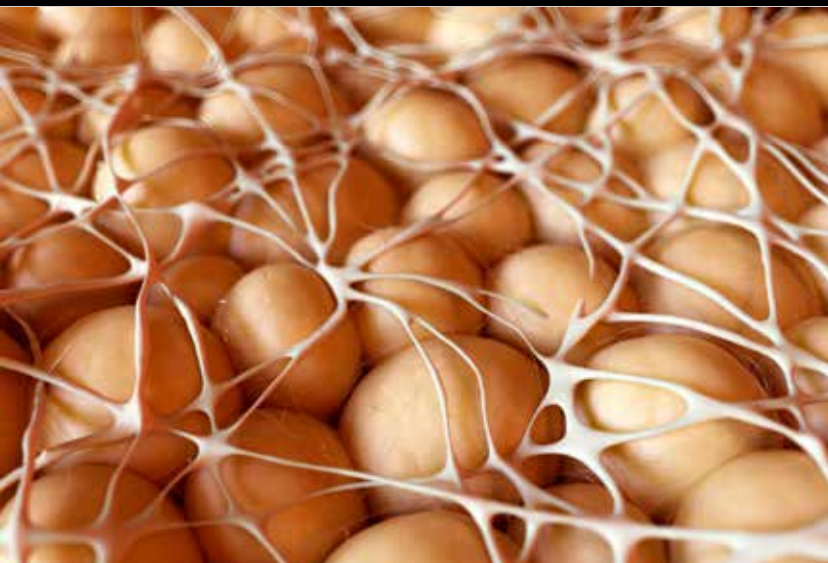
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Robert V. Farese, Jr., MD

2018 Endocrine Society Laureate Robert V. Farese, Jr., from the Harvard T.H. Chan School of Public Health talks about why receiving the Roy O. Greep Award for Outstanding Research means so much to him as well as what he thinks are the three most vital requirements for a good lab team.



Medically accurate illustration of fatcells

Robert V. Farese, Jr., MD, is a professor of Genetics and Complex Diseases at the Harvard T.H. Chan School of Public Health and Professor of Cell Biology at Harvard Medical School. In January, he was selected as one of the Endocrine Society's 14 leaders in the endocrinology field as winners of its prestigious 2018 Laureate Awards.

Farese was presented with the Roy O. Greep Award for Outstanding Research, which recognizes meritorious contributions to research in endocrinology. He has made seminal contributions to the understanding of cellular lipid metabolism. Farese and his co-workers discovered the enzymatic basis for mammalian triglyceride synthesis, via two unrelated enzymes, DGAT1 and DGAT2. His work has shown how alterations in lipid synthesis and storage contribute to the pathogenesis of human diseases, in particular type 2 diabetes, and has suggested new targets for therapy.

Endocrine News caught up with Farese to learn more about the work that has earned him such praise.

Endocrine News: You've been a professor at Harvard for four years and Roy Greep was also a Harvard endocrinologist. He also once served as president of the Endocrine Society. What did being honored with an award in his name mean to you?

Robert V. Farese: Well, at this point in my career, I am a basic scientist mostly, but I was originally trained as an endocrinologist and my father also was originally an endocrinologist and still is a member of the Endocrine Society. As I learned about Dr. Greep and his contributions, which were huge to the Endocrine Society and endocrine research, I felt

“ We want to do what we can to elucidate the cellular machinery that is involved in fat synthesis and storage in an organelle called the lipid droplet, and you know we have been working on that for quite some time and want to continue to try to elucidate the molecular pathways that underlie that basic biology.”

“I think that the two most important decisions you make in leading an academic lab are the choice of the problem you work on, really giving a lot of thought to where you want to spend your efforts, and the second is hiring the right people to carry out your vision, which is a very difficult thing.”

that it was a great honor for me and I knew that my father also knew of Dr. Greep, so that definitely influenced my feelings about it. I was very honored to be recognized in that way.

EN: I saw your recent research paper published in *Cell Metabolism* and read how your contributions are helping scientists understand the biology that kind of underlines the common diseases, such as obesity and diabetes. How did this come to be the pinpoint of your research?

RVF: The big picture overview for me was that when I was training in medicine, I first got interested in cardiovascular diseases and I became interested in cholesterol metabolism because of that, so my initial research career was focused around cholesterol metabolism and heart disease. At that time, we were studying the biology of enzymes involved in making, let's say, LDL lipoproteins, and we serendipitously discovered an enzyme that makes triglycerides.

These were the so-called DGAT enzymes, and that was pivotal because at that point we recognized that would get us into a whole different area of physiology and pathophysiology because it would relate to making oils or fat. So we then switched our interests into obesity, obesity-related metabolic diseases like diabetes and fatty liver disease. Then gradually

“Dr. Farese is an exceptional physician-scientist who has brought rigorous scientific approaches to bear on fundamental questions impacting human metabolic disease and the conception of novel therapeutic strategies. He has also shown exemplary dedication to scholarship, teaching, and to the training of future researchers.” — Gokhan Hotamisligil, MD, PhD, J.S. Simmons Professor of Genetics and Metabolism; chair, Department of Genetics and Complex Diseases, Harvard T.H. Chan School of Public Health, in his nomination citation which appeared in the January 2018 issue of *Endocrine News*.


over many years I've gotten more into the basic science of how fats are synthesized and stored in cells and tissues.

EN: I read an article on the Harvard School of Public Health website about you and your lab partner Tobias Walther. It looks like the two of you have a really good partnership. What advice could you offer to other lab managers on how to build a good team that works well together?

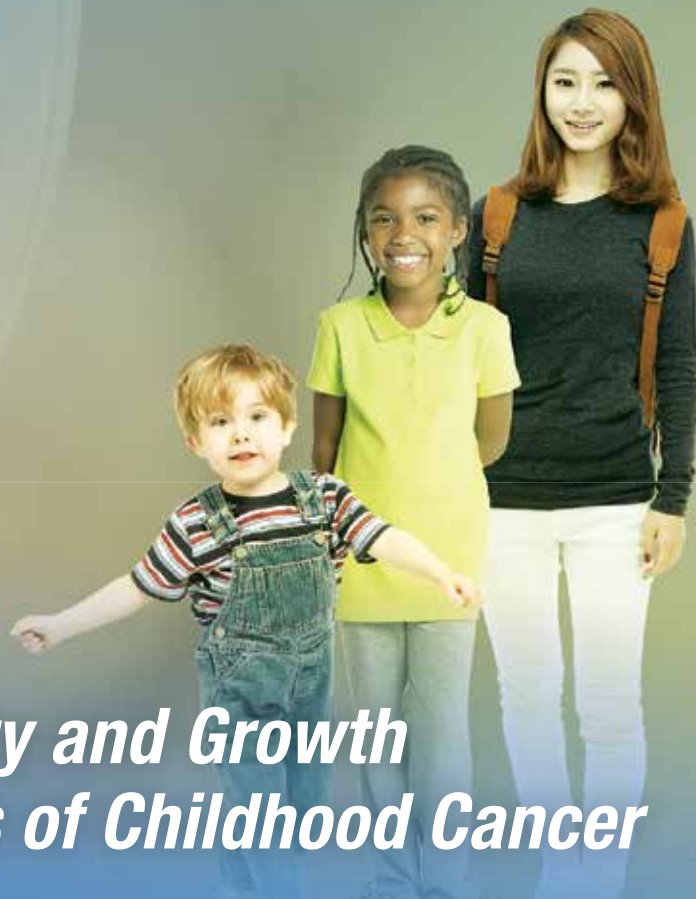
RVF: I think that the two most important decisions you make in leading an academic lab are the choice of the problem you work on, really giving a lot of thought to where you want to spend your efforts, and the second is hiring the right people to carry out your vision, which is a very difficult thing. But you know if you hire people who don't fit for whatever reason, it's a huge opportunity cost for trying to accomplish projects that take several years at a time.

I think the third important decision is establishing both the scientific and collegial culture in your group. That's really important, and that's set by the top. Culture comes from the leadership, generally, in my experience. Tobi and I work very hard on this together.

EN: What's next for you and your team?

RVF: We have two broad-perspective goals. We want to do what we can to elucidate the cellular machinery that is involved in fat synthesis and storage in an organelle called the lipid droplet, and we have been working on that for quite some time and want to continue to try to elucidate the molecular pathways that underlie that basic biology. Secondly, we've developed a new interest in the brain. We're interested in lipid metabolism in the brain and trying to understand the fundamental aspects of that, and then how things break down in neuro-degenerative diseases. 

GLENDY FAUNTLEROY SHAW IS A FREELANCE HEALTH EDITOR/WRITER BASED IN CARMEL, IN. SHE IS A REGULAR CONTRIBUTOR TO *ENDOCRINE NEWS*.



Hypothalamic-Pituitary and Growth Disorders in Survivors of Childhood Cancer

A NEW STANDARD FOR CARE

Get the latest recommendations on how to diagnose and manage hypothalamic-pituitary and growth disorders commonly found in childhood cancer survivors.

40-50%

OF SURVIVORS
WILL DEVELOP
AN ENDOCRINE
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The guideline emphasizes key differences in the testing and treatment of these disorders that are specific to the childhood cancer survivor such as:

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- Treatment of adrenocorticotrophic hormone deficiency

Learn about the importance of life-long screening for earlier detection and better care of these patients.

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The badge commemorating the Endocrine Society's efforts during Women's Health Month were given to attendees of the health fair.

Endocrine Society Shares Information on Women's Health Issues at Congressional Health Fair

HOW THE ENDOCRINE SYSTEM PLAYS A ROLE

GLANDS

Ovaries are glands that produce eggs and sex hormones—including estrogen, testosterone, and progesterone—which are vital to reproductive organ development, breast development, bone health, pregnancy, and fertility.

Hirsutism affects 5-10% of all women. It refers to excess dark, thick hair in areas (such as the arms) where women usually don't have much hair. It is usually a sign of an underlying endocrine disorder, most commonly, **polycystic ovary syndrome (PCOS)**.

As women approach mid-life, estrogen levels start to fluctuate and then drop. During **menopause**, a woman's ovaries stop producing eggs and produce fewer female hormones. This condition is a normal part of the aging process that women undergo, and symptoms vary greatly from woman to woman.

HORMONES

Estrogen
Estrogen is one of two main sex hormones that women have. The other one is progesterone. Estrogen is responsible for women's physical features and reproduction.

Progesterone
Progesterone is a hormone released by the ovaries. Changing progesterone levels can contribute to abnormal menstrual periods and menopausal symptoms. Progesterone is also a crucial part of the menstrual cycle and maintenance of pregnancy. Progesterone helps to regulate women's cycles.

Testosterone
Testosterone helps with the growth, maintenance, and repair of women's reproductive tissues. When this hormone is not in balance, a lowered sex drive and health problems can occur.

PREGNANCY AND FERTILITY

About **35-40%** of infertility cases are due to female infertility.

About **25%** of women with infertility have infrequent or absent ovulation. These women usually have irregular periods or no periods at all.

LH and follicle-stimulating hormone, FSH, signal an egg to develop and be released from the ovary. A woman's ability to get pregnant can also be affected by her age, since the number and quality of her eggs gradually decrease beginning around **age 35**.

1 in 8 Breast Cancer
Breast cancer is one of the most common cancers affecting 1 in 8 women. Estrogen and progesterone can cause breast tissue to grow faster than normal. Women who have been treated for breast cancer may experience fertility issues.

5-6 Million PCOS
PCOS affects an estimated **5 to 6 million** women in the U.S. and is the most common cause of infertility. PCOS is also associated with an increased risk of several endocrine disorders, including:

- Type 2 Diabetes
- Cardiovascular Disease
- Obesity

Some of the information that was presented at the Endocrine Society booth at the health fair on Capitol Hill.



Endocrine Society's specialist, government and public affairs, Grace Kranstover mans the booth at the recent health fair on Capitol Hill to educate policy makers and patients alike about the role the endocrine system plays in women's health.

On September 12, the Endocrine Society joined over 40 leading public health organizations to participate in the Coalition for Health Funding's third annual Public Health Fair on Capitol Hill.

The Public Health Fair gave the Endocrine Society a unique opportunity to reach a wide Congressional audience and to connect with other organizations with similar priorities. In previous years, the Endocrine Society has focused on issues related to endocrine-disrupting chemicals (EDCs) and diabetes.

This year, to highlight that September is Women's Health Month, the Endocrine Society hosted a booth titled "Women's Reproductive Health - It's Complicated" to educate staffers and members of Congress on how the endocrine system plays a role in women's health. Visitors learned about how the endocrine system is integral to women's health and about issues such as polycystic ovary syndrome (PCOS) and its related comorbidities, access to contraception and preventative services, pregnancy, and infertility and its insurance coverage gaps. Endocrine Society staff member Jenni Gingery and her daughter Dana, a "miracle baby" that was conceived with a lot of love and a little bit of endocrinology, also joined the booth. Together, Jenni and Dana were able to demonstrate how endocrine breakthroughs have changed lives and on the importance of insurance coverage for infertility treatments.



ADVOCACY

As part of the Endocrine Society's educational efforts Jenni Gingery, assistant director, media relations brought her daughter Dana to demonstrate the role endocrine science has had on reproductive medicine as well the importance of insurance coverage for infertility treatments.

As spotlighted in the August issue of *Endocrine News*, the Society has prioritized women's health issues and taken a strong stance to support improving and protecting access to care

for all women. Working with members of Congress, the Society has encouraged Congress to provide additional funding for PCOS research and endorsed a bill proposed by Senator Corey Booker (D-NJ) and Congresswoman Rosa DeLauro (D-CT) that would close insurance gaps that do not cover infertility treatment services.

However, plenty of work remains to be done, and the Society continues to campaign for increased funding for the National Institutes of Health's Office of Research on Women's Health, advocate for health insurance coverage without lifetime caps or pre-existing conditions exclusions, and support access to no-cost contraception and preventative health services vital to women's health.

To keep up to date and learn more about how the Endocrine Society continues to work to improve women's health, visit our page at endocrine.org/advocacy/priorities-and-positions/womens-health.

House and Senate Reach Deal to Increase NIH by \$2 Billion

One of the Society's top legislative priorities has been to obtain a funding increase for the National Institutes of Health. For the last year, we have advocated for a \$2 billion increase. We have submitted testimony to the House and Senate Appropriations Committees, we have implemented several online advocacy campaigns, we have engaged our members in a Researcher Hill Day to talk to congressional offices about the value of endocrine research, we have met with U.S. representatives and senators, and we have worked with coalitions of other researchers who share our message. Despite these efforts, the deadline for passing a new funding bill was growing near and it was not clear if a deal would be reached.

On September 13, the Endocrine Society joined with other leaders in the biomedical research community to sponsor a Rally for Medical Research Hill Day. Members of our Advocacy and Public Outreach Core Committee and our Research Affairs Core Committee joined with hundreds of researchers, physicians, and patients from across the country and came to Washington, D.C., to urge Congress to pass a funding bill.

By the end of that day, a joint House-Senate Conference Committee announced they had agreed on an appropriations package that combines fiscal year (FY) 2019 funding for the Department of Labor, Health, and Human Services (LHHS) and the Department of Defense. The great news for biomedical research is that this agreement would fund NIH at \$39.1 billion, a \$2 billion increase over current funding. As this issue of *Endocrine News* goes to press, the legislation will be sent to the president for his signature.

We thank all Endocrine Society members who took action in our advocacy campaigns. You made a difference!

Endocrine Society Member Matt Ringel, MD, met with Representative Steve Stivers (R-OH) as part of the Rally for Medical Research. Ringel thanked Stivers for his consistent support for the National Institutes of Health and his work as co-chair of the Congressional Biomedical Research Caucus. Pictured (l to r): Matt Ringel, MD, Rep. Steve Stivers, Michael Lahm, and Christopher Radlicz.



Online Resources: Blogs & Websites

COMPILED AND WRITTEN BY COURTNEY CARSON

► Kevin MD

Kevin Pho, MD, who has been referred to as one of social media's leading physician voices, is a practicing, board-certified internal medicine physician, national media commentator, co-author, and keynote speaker. On his blog, Pho and his various guest commentators break down the various topics surrounding the industry and offer a fresh and professional insight into the healthcare realm.

<https://www.kevinmd.com>



◀ The BTA Blog

The official blog of the British Thyroid Association, The BTA Blog features members' news, advice to and from healthcare professionals, and the latest thoughts in the field of thyroidology. Posts range from tips on explaining thyroid disease to pediatric patients to the factors driving the prescription and possible overuse of levothyroxine.

<http://www.british-thyroid-association.org/blog>



► Kaiser Health

A digital news outlet focused on trending healthcare topics, Kaiser Health News offers industry professionals a current take on issues circulating throughout the healthcare spectrum. Kaiser Health News also offers their subscribers audio podcasts consisting of various panelists' favorite health stories of the week.

<https://khn.org/>



◀ Endocrine Society

The official website of the Endocrine Society is more than just a member portal (but it is also that as well) because it leads the user to so many vital destinations they may need whether they see patients or spend their days at the bench. With direct links to meeting information, the Society's journals as well as *Endocrine News*, [endocrine.org](http://www.endocrine.org) also provides access to all of the practice guidelines the Society has published.

www.endocrine.org



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► Speaking of Diabetes

Speaking of Diabetes is the blog of the Joslin Diabetes Center, the research and teaching affiliate of the Harvard Medical School. Its team of more than 300 scientists is dedicated to finding innovative pathways to prevent, treat, and cure type 1 and type 2 diabetes and the posts on this blog feature its latest research, breakthroughs, and successes. The blog not only features resources for those working in the field of endocrinology, but also includes articles for patients.

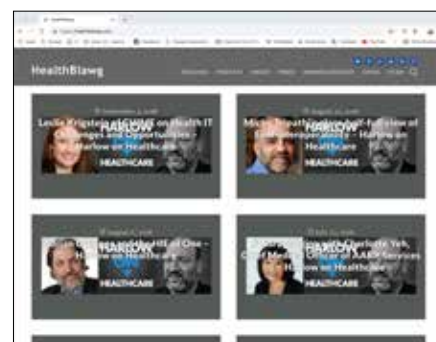
<http://blog.joslin.org>



► HealthBlawg

Given the ever-changing healthcare industry, it is nearly impossible for physicians and medical professionals alike to remain aware of all legislative changes and updates. HealthBlawg, a blog written and owned by healthcare lawyer David Harlow, focuses on healthcare policy, data privacy, and digital health law as it impacts the overall industry. Harlow also interviews leading healthcare professionals and provides the audio recording in a podcast format for his listeners and readers.

<https://healthblawg.com>



◀ Doctor Thyroid with Phillip James

Known as “the NPR of thyroid-information,” Doctor Thyroid is a meeting place to hear from top thyroid doctors and health professionals on the latest treatment options. Created by Phillip James after he was diagnosed with thyroid cancer, Doctor Thyroid features a blog and podcast that include interviews with physicians and healthcare professionals on endocrinology, surgery, hypothyroidism, thyroid cancer, functional medicine, pathology, and radiation treatment. Recent podcasts have included interviews with Endocrine Society members Leonard Wartofsky and Michael Tuttle.

<https://docthyroid.com>

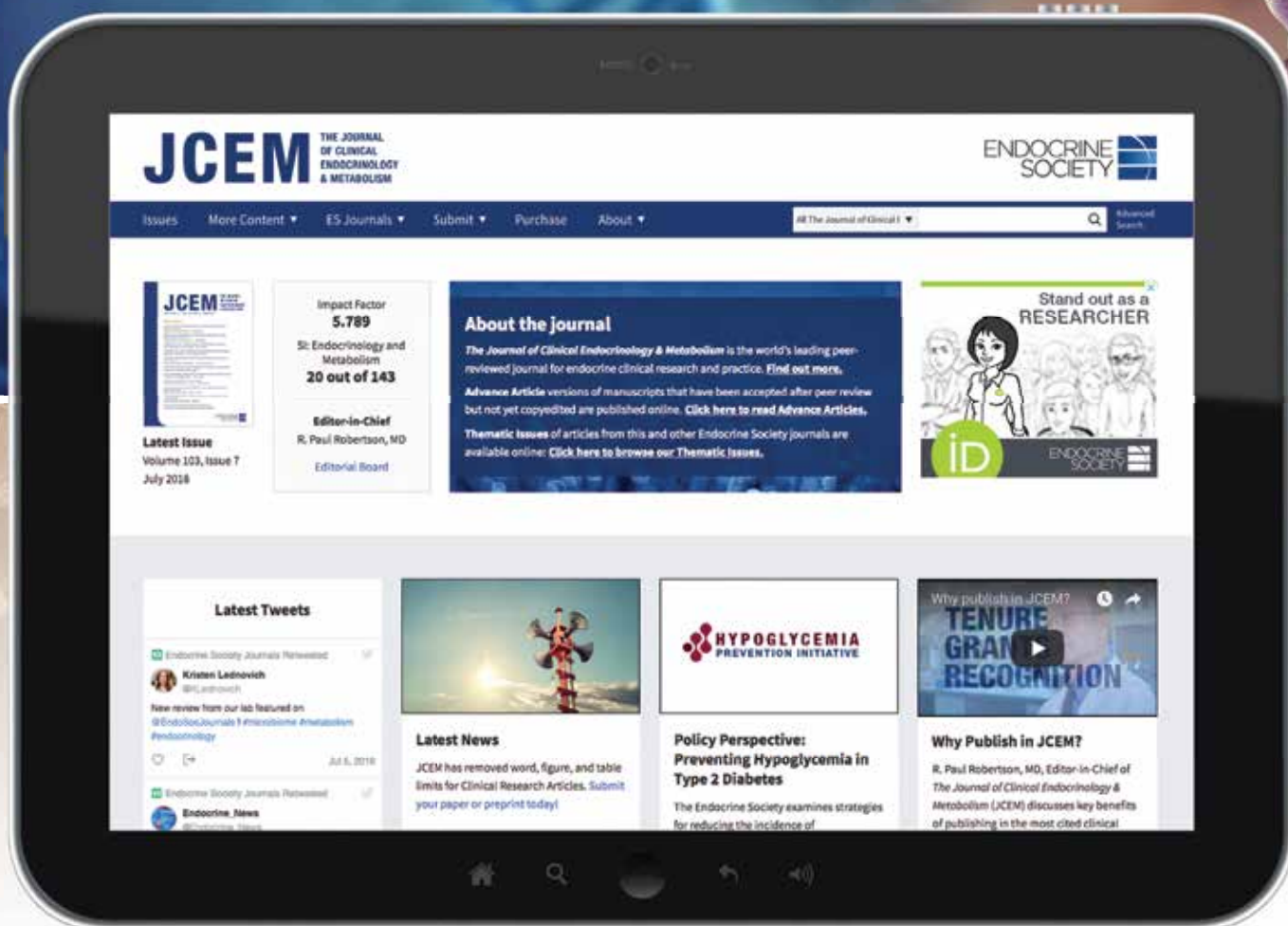


► Diabetes Discoveries and Practice Blog

Described as “dialogue with thought leaders on emerging trends in diabetes care,” Diabetes Discoveries and Practice Blog is the blog of the National Diabetes Education Program (NDEP), a jointly sponsored program by the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC). Recent blog posts include “Words Have Power” on the way language used in patient encounters can impact diabetes care and “The Impact of Physician Burnout” which offered possible solutions to end the nationwide crisis of physician burnout.

<https://www.niddk.nih.gov/health-information/professionals/diabetes-discoveries-practice>





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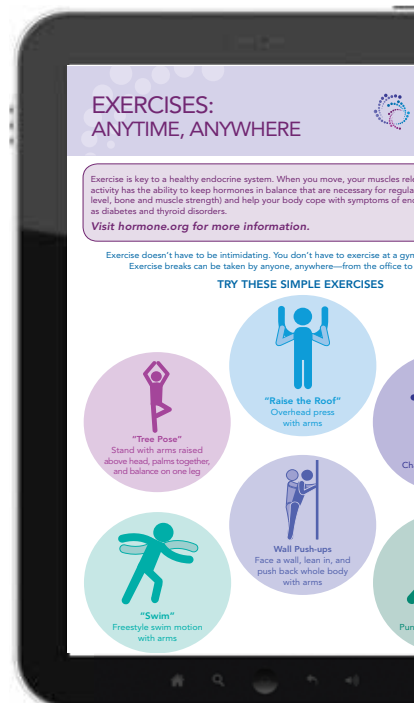
OBESITY AND ENDOCRINOLOGY RESOURCES

Patients Have Questions.
We Have Answers.

Hormone Health Network provides information and resources for obesity and weight management. Our goal is to help patients have informed discussions with their health care providers about obesity, dieting, and bariatric surgery. All our educational resources are based on the clinical and scientific expertise of the Endocrine Society.

MOVING PATIENTS FROM EDUCATED TO ENGAGED

One of the most important ways we reach patients is by partnering with you their health care providers. With a busy practice, we know it can be difficult to find enough time to adequately educate patients. Our resources are designed to be time-saving tools that help patients better understand their condition and treatment options.



POINT OF CARE TOOLS



View our educational videos—Which help to enhance patient understanding and increase confidence support their overall well-being.



Download patient guides—These evidence-based patient resources are a derivative of the Endocrine Society Clinical Practice Guideline used as point of care tools to support patient learning and comprehension.



Share fact sheets—We make understanding complex conditions endocrine related topics easy for patients.



Connect with patients using infographics—These visual tools offer a clear, accurate, concise way to increase patient understanding, involvement and promote informed conversations.

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



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FROM THE ENDOCRINE SOCIETY

A Place to Care for Your Career



You care for others—we're here to care for your career. Find jobs, career advice, and more at EndoCareers.

- ✓ **SEARCH** hundreds of endocrine jobs nationwide and in your city.
- ✓ **SET JOB ALERTS** to save time and ensure you don't miss out on your dream job.
- ✓ **UPLOAD YOUR RESUME** to make applying to jobs easier—and activate it to make sure employers can find you.
- ✓ **STAY INFORMED** with news and career advice.



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