

NOVEMBER 2025

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

Endocrine news

A FOCUS *on* DIABETES

Endocrine News looks at some of the latest advancements in the treatment and science of diabetes.

- **SKELETONS IN THE CLOSET:** The hidden long-term consequences of diabetes, adolescent obesity, and bone health in adulthood.
- **BUILDING BRIDGES:** Manasi Shah, MD, discusses how endocrinologists can play an important role in transplant diabetes treatment.
- **CHALLENGES AND OPPORTUNITIES:** The Endocrine Society's latest Scientific Statement focuses on new and improved treatment options for type 1 diabetes.

ENDOCRINE
SOCIETY

Hormone Science to Health



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A recently published Endocrine Society Scientific Statement sheds light on new and improved treatment options for type 1 diabetes. *Endocrine News* speaks with first author Aaron W. Michels, MD, about the Statement's implications and why this is an exciting time in type 1 diabetes research. **BY DEREK BAGELY**

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Diabetes Awareness Month: Updates on the Society's Diabetes Guidance, Education, Advocacy, and Research All Year Long

Every month is diabetes awareness month at the Endocrine Society. In the United States, November has been set aside for this purpose, allowing healthcare organizations, advocates, and providers to draw attention to this disease that affects millions of people.

I'd like to take this opportunity to recap some of the diabetes-related initiatives at the Endocrine Society over the past 12 months. These efforts include diabetes practice, education, advocacy, research, and more.

In July, the Endocrine Society, along with the European Society of Endocrinology, released an important new joint Clinical Practice Guideline on preexisting diabetes and pregnancy.

The new guideline was developed “as diabetes rates are rising among women of reproductive age, and very few women with diabetes receive proper preconception care,” explains Guideline Chair Jennifer Wyckoff, MD.

In addition to preconception planning, Wyckoff adds, “the guideline discusses advances in diabetes technology, delivery timing, medications, and diet.”

Suggestions from the guideline include:

- ▶ **Screening** — Ask all women with diabetes of reproductive age about intent to conceive at every reproductive, diabetes, and primary care visit.
- ▶ **Delivery timing** — Before 39 weeks for pregnant individuals with diabetes as the risks associated with continued pregnancy may outweigh those of early delivery.
- ▶ **Medications** — Discontinue anti-obesity medications called GLP-1s prior to pregnancy; avoid prescribing metformin in pregnant individuals with preexisting diabetes already on insulin.
- ▶ **Diabetes technology** — Recommend hybrid closed loop systems for pregnant individuals with type 1 diabetes.
- ▶ **Contraception** — Suggest women with diabetes use contraception until they are ready to become pregnant.

This guideline was published online in *The Journal of Clinical Endocrinology & Metabolism* (JCEM) and the *European Journal of Endocrinology* (EJE) and joins other important Society clinical guidelines on diabetes.

Diabetes Treatment Education

The Society's diabetes guidelines are designed to improve clinical practice. So, too, are our diabetes-related continuing medical education (CME) programs. This year we launched many new CME online programs related to diabetes care, many of them free, including:

- ▶ Metabolic Health and Obesity in Children
- ▶ Uncomplicating the Complications of Type 2 Diabetes Through a Tailored Approach to Comorbidity Management
- ▶ Understanding the Interconnectivity of Type 2 Diabetes, Cardiovascular Disease, and Chronic Kidney Disease
- ▶ Evaluating Modes of Insulin Delivery for Improved Patient Experiences
- ▶ Revolutionizing Type 1 Diabetes Care Through Advanced Screening and Monitoring
- ▶ Patient POV: Shared Decision Making in the Management of Type 2 Diabetes with Comorbidities
- ▶ Evaluating Advanced Technology for Patient-Specific Management of Type 1 Diabetes

Access these and other diabetes-related educational resources in our Center for Learning.

Advocacy: Funding for Diabetes Research and Access to Affordable Treatments

Capitol Hill is another area where the Society is advancing diabetes interests. This year, the Society successfully advocated to restore funding for the Diabetes Prevention Program Outcomes Study (DPPOS) and funding for the Diabetes Research Centers at the National Institutes of Health (NIH).

This effort was needed after the presidential administration earlier this year abruptly canceled funding for both programs, which are critical for diabetes research.

The DPPOS examines the long-term effects of diabetes prevention on other health conditions, including Alzheimer's disease, cancer, and heart disease. This long-term study follows

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We encourage you to submit your diabetes research as **ENDO** abstracts and journal publications. Our EndoForum platform offers members a place to discuss research advances and best practices with peers from around the globe.

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the surviving participants of the original Diabetes Prevention Program (DPP) cohort.

Our advocacy staff and member volunteers urged the administration to reverse its decision, while we worked closely with co-chairs of the Congressional Diabetes Caucus. Ultimately, funding for the DPPOS and the research centers was restored this summer.

On another important diabetes front, the Society continues to urge Congress to pass a long-term reauthorization of the Special Diabetes Program (SDP).

The SDP provides funding for type 1 diabetes research through the National Institutes of Diabetes and Digestive and Kidney Diseases (NIDDK) and funding for type 2 diabetes prevention and education programs for American Indian and Alaska Natives at the Indian Health Service.

We are one of the only organizations advocating for SDP funding, and we will continue to press Congress for long-term funding of this critical program.

Diabetes Research in our Journals

Research is still another area where the Society continues to make important contributions to diabetes knowledge.

In July, we released a Scientific Statement that provides an overview of scientific challenges and highlights opportunities for improving our understanding of the pathogenesis of type 1 diabetes. Access the statement titled “Challenges and Opportunities for Understanding the Pathogenesis of Type 1 Diabetes.” It is available to access online at: <https://academic.oup.com/jcem/article/110/9/2496/8190165>.

In addition, various ground-breaking articles have been published in our suite of journals. Articles in *The Journal of Clinical Endocrinology & Metabolism* (JCEM) include:

- ▶ Preexisting Diabetes and Pregnancy: An Endocrine Society and European Society of Endocrinology Joint Clinical Practice Guideline
- ▶ Effects of a Carbohydrate-Restricted Diet on β -Cell Response in Adults With Type 2 Diabetes

Diabetes research in our other journals include:

- ▶ Insulin Resistance in Type 1 Diabetes: Pathophysiological, Clinical, and Therapeutic Relevance *Endocrine Reviews*, Review article
- ▶ The Impact of Hypothyroidism on Cardiovascular-Related Healthcare Utilization in the US Population With Diabetes *Journal of the Endocrine Society*, Clinical Research Article
- ▶ Interaction of B0AT1 Deficiency and Diet on Metabolic Function and Diabetes Incidence in Male Nonobese Diabetic Mice *Endocrinology*, Research article
- ▶ A Case of Amyotrophic Lateral Sclerosis With Coexisting Maturity-onset Diabetes of the Young Type 5 *JCEM Case Reports*, Case Report

As you can see, we're always raising awareness of diabetes, in November and every other month of the year. We encourage you to submit your diabetes research as **ENDO** abstracts and journal publications. Our EndoForum platform offers members a place to discuss research advances and best practices with peers from around the globe. 

Carol A. Lange, PhD
President, Endocrine Society



FROM THE **EDITOR**

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Diabetes Discourse 2025

As November and Diabetes Awareness Month arrive, *Endocrine News* publishes its annual issue dedicated to the science and treatment of diabetes. Each year, we feature the research of our members from around the world, as their work improves our understanding of the disease and brings us closer to a cure.

On page 20, Kelly Horvath explores the **“Hidden Skeletal Consequences of Adolescent Obesity,”** specifically the link between adolescents with obesity and type 2 diabetes and osteoporosis later in life. Kelly talks to lead researcher Fida Bacha, MD, based on her presentation at **ENDO 2025** in San Francisco last July. That presentation was based on research Bacha and her team published in *The Journal of Clinical Endocrinology & Metabolism* in 2022, which she hopes will further raise the issue of bone health in childhood. “Obesity and type 2 diabetes affect the whole-body system, and bone health is yet another aspect that we’re uncovering that is really important,” she says. “Although not a lot of work had been done previously on the effect of obesity on the skeletal system, our study published in *JCEM* showed that insulin resistance does contribute to the relationship between obesity and whole-body bone mineral content. Here, we took it a step further to look more into the microarchitecture using high-resolution peripheral quantitative CT.”

Senior Editor Derek Bagley discusses the Endocrine Society’s recent Scientific Statement, “Challenges and Opportunities for Understanding the Pathogenesis of Type 1 Diabetes: An Endocrine Society Scientific Statement,” that was published in the September issue of *The Journal of Clinical Endocrinology & Metabolism*. In **“Challenges and Opportunities: Developing New and Improved Treatment Options for Type 1 Diabetes”** on page 14, Derek talked with Aaron W. Michels, MD, a professor of medicine at the Barbara Davis Center for Diabetes at the University of Colorado Anschutz, Aurora, and one of the Statement’s co-authors, who says that even though diabetes treatment has come a long way in the last 100 years, there’s still a long way to go since type 1 diabetes is still linked with a significant morbidity and mortality. “We’re more than a century past the discovery of insulin, and yet type 1 diabetes still carries a heavy burden,” Michels says. “With so many breakthroughs happening at once — from immunotherapies to studying the human pancreas — we felt the field needed a roadmap to identify what we know, what we don’t, and where we must go next.”

In **“Building Bridges”** on page 32, Milay Luis Lam, MD, talks with Early-Career Special Interest Group steering committee member Manasi Shah, MD, who goes into the details on how endocrinologists can play an important role in treating transplant diabetes patients. Shah details her journey that began in Mumbai, India, when she witnessed her friend test her own blood sugar at age five up until today where she’s now conducting clinical trials in transplant diabetes. She recently received funding that will support her research in patients with post-transplant diabetes and will allow her to systematically study kidney transplant recipients in the early post-transplant period, combining clinical outcomes with metabolic assessments. “Receiving this funding means I have protected time and money to follow patients closely, learn new research skills, collect objective data, and collaborate with my multidisciplinary team — including nutritionists, transplant surgeons, nephrologists, diabetes educators, and basic scientists — to generate evidence that can directly guide patient care,” she explains. “For me, this is the perfect blend of bench-to-bedside science: translating what I observe in clinic into studies that could shape future guidelines and improve long-term transplant outcomes.”

While at **ENDO 2025** in San Francisco in July, I ran into Stanley Andrisse, PhD, who said, “I think I have a great story for you!” Boy did he! For the 12+ years I’ve been overseeing *Endocrine News*, not once has anyone approached me about the link between dentistry and endocrinology! Well, that has all changed, as you’ll see on page 38 in **“Tooth or Consequences”** in which Glenda Fauntleroy Shaw talks to Early-Career Endocrine Society member and dental student TyShawn Harris about his research studying the links between endocrinology and dentistry. According to Harris, the connection between endocrinology and dentistry is actually very direct. “Diabetes and oral health are closely linked — when blood glucose is poorly controlled, it increases the risk of periodontal (gum) disease, delayed wound healing, dry mouth, and oral infections,” he tells us.

“For example, if a diabetic patient needs a tooth extraction, they might experience prolonged bleeding or slower recovery. Conversely, chronic periodontal inflammation can make it harder to control blood sugar levels, creating a cycle that worsens both conditions.”

You know how I wrap up most of my Editor’s Letters by encouraging you to let me know if you have an idea that would be ideal for *Endocrine News*? Well, Omodamola Aje, MD, a clinical endocrinologist at Berkshire Medical Center in Pittsfield, Mass., took that to heart and contacted us about how she’s reaching patients, not only in her practice, but around the world via social media. In **“Reaching Out”** on page 42 she talks to Derek about how she’s using “digital advocacy” to help inform people about women’s hormonal health. “Nothing is as bad as half-baked knowledge,” she tells us. “Half-baked knowledge is worse than no knowledge at all, because if you don’t know, you’d say, ‘I don’t know; please teach me.’ If you have half-baked knowledge, you think you know, and then you are spreading this misinformation.”

So, if, like Dr. Aje, you have an idea that you think would be ideal for *Endocrine News*, you know what to do! Contact me at: **mnewman@endocrine.org**. And stay tuned for the December issue where we will feature our annual “Eureka!” article highlighting the top endocrine discoveries of 2025! **EN**

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

Habener, Bass Elected to the National Academy of Medicine



Joseph T. Bass, MD, PhD



Joel F. Habener, MD

When the National Academy of Medicine (NAM) announced its new 2025 members at its annual meeting on October 20, two Endocrine Society members were included: Joseph T. Bass, MD, PhD, and Joel F. Habener, MD.

Election to the Academy is considered one of the highest honors in the fields of health and medicine and recognizes individuals who have demonstrated outstanding professional achievement and commitment to service. Both Bass and Habener are also past recipients of the Endocrine Society's Laureate Awards.

Joseph T. Bass, MD, PhD, Charles F. Kettering Professor of Medicine and chief, Division of Endocrinology, Molecular Medicine, and Metabolism, Feinberg School of Medicine, Northwestern University, Chicago. For his foundational studies that opened the field of circadian mechanisms in metabolic health and disease. His discovery that clock gene mutations lead to obesity, beta-cell failure, and metabolic syndrome have transformed our understanding of how circadian cycles control energy balance and the pathologies tied to shift work, sleep loss, and night-eating. In 2023, Bass received the Endocrine Society's Roy O. Greep Laureate Award for Outstanding Research.

Joel F. Habener, MD, professor of medicine (emeritus), Harvard Medical School; and honorary physician, Massachusetts General Hospital, Boston. For the discovery

of glucagon-like peptide-1 (GLP-1), and its multiple anti-diabetogenic actions, resulting to its current use as a leading effective treatment for type 2 diabetes and obesity. Habener discovered GLP-1 stimulates insulin secretion in an entirely glucose-dependent manner and also promotes the formation (neogenesis) and survival of pancreatic beta cells. Habener, too, is a past recipient of a Laureate Award from the Endocrine Society; in 2018, he received the Outstanding Mentor Award. Habener also received the Society's 1999 Robert H. Williams Distinguished Leadership Award and presented the 1979 Edwin B. Astwood Award Lecture.

New members are elected by current members through a process that recognizes individuals who have made major contributions to the advancement of the medical sciences, health care, and public health.

Established originally as the Institute of Medicine in 1970 by the National Academy of Sciences, the National Academy of Medicine addresses critical issues in health, science, medicine, and related policy and inspires positive actions across sectors. The National Academies of Sciences, Engineering, and Medicine also encourage education and research, recognize outstanding contributions to knowledge, and increase public understanding of STEM. With their election, NAM members make a commitment to volunteer their service in National Academies activities.



Mila Becker, Esq.

Endocrine Society's Mila Becker, Esq., Receives Association Honor

Endocrine Society Chief Policy Officer Mila Becker, Esq., has been named one of 2026 Leading Association Lobbyists by Association TRENDS and CEO Update.

Becker was recognized for her impressive work managing the Society's public policy agenda and advocacy efforts. Becker's team develops strategies to improve biomedical research funding, women's health, diabetes and obesity prevention, and global advocacy related to better regulation of endocrine-disrupting chemicals.

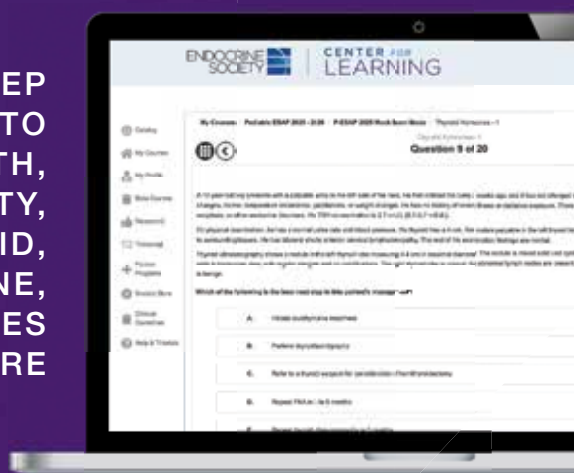
For more than 20 years, Becker has worked in government relations for nonprofit health-related organizations. Prior to joining the Society in July 2013, she spent 10 years at the American Society of Hematology as the senior director for Government Relations, Practice, & Scientific Affairs. Before that, she worked as a senior lobbyist for AARP, where she was responsible for prescription drug and other high-priority health advocacy issues, and she was director of public policy for Partnership for Prevention, a coalition dedicated to disease prevention and health promotion.

She holds a BA in political science from Northwestern University and a JD from Georgetown University Law School. Becker's achievements will be recognized at the Salute to Association Excellence event on March 5, 2026. **EN**

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The latest advancement uses a pressure-enabled drug delivery (PEDD) device to create a forward pressure gradient, allowing the microspheres to be delivered evenly through the inferior thyroid artery alone.

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Pressure-Enabled Embolization Shows Promise as Safer Alternative to Thyroid Surgery

For patients with large, symptomatic thyroid goiters and toxic nodules, the question of whether to undergo surgery may soon have a less invasive answer. A new procedure, pressure-enabled thyroid artery embolization (PED-TAE), is emerging as a promising alternative. An initial clinical study published in the *Journal of the Endocrine Society* titled, “**Safety and Efficacy of Pressure-Enabled Thyroid Embolization: A Novel Approach for Symptomatic Thyroid Disease**,” has shown PED-TAE to be a viable option for treating symptomatic thyroid disease.

Thyroid artery embolization (TAE) is a minimally invasive technique performed by interventional radiologists to reduce the blood supply to the thyroid gland. By injecting embolic agents, such as microspheres, into the arteries feeding the thyroid, the procedure causes the targeted tissue to shrink, alleviating pressure symptoms like difficulty breathing and swallowing. Traditionally, TAE involves accessing both the inferior and superior thyroid arteries — routes that carry technical challenges and increased procedural risks, including the possibility of non-target embolization and even strokes.

The latest advancement uses a pressure-enabled drug delivery (PEDD) device to create a forward pressure gradient, allowing the microspheres to be delivered evenly through the inferior thyroid artery alone. This change bypasses the risky superior artery, potentially lowering the risk of complications and improving the safety profile of the procedure.

Embolization was initially used for tumors and uterine fibroids, and its application to thyroid disease is relatively new — the first TAE for Graves’ disease was performed in 1994. Despite its growing use, there are currently no long-term studies directly comparing TAE to thyroidectomy.

Thyroidectomy, while effective, carries its own risks, such as recurrent laryngeal nerve damage and the need for lifelong hormone replacement due to permanent hypothyroidism.

In the recent retrospective cohort study, 22 patients with symptomatic thyroid conditions underwent PED-TAE. Among these, half had multinodular goiters, six had toxic nodules or goiters, three chose the procedure before thyroidectomy, one had Graves’ disease, and one had a solitary nodule. Importantly, none experienced neurovascular complications. Mild pain or discomfort was reported by 18 patients, but these symptoms resolved within two weeks.

Of those with hyperthyroidism, 71% achieved normal thyroid function following treatment. For the 18 patients who completed six months of follow-up, the average thyroid gland volume decreased dramatically — from 184.5 mL to 49.9 mL, a significant 73% reduction. This compares favorably to the 56% average reduction observed with traditional TAE, which involves embolizing both major thyroid arteries.

Researchers conclude that PED-TAE is a safe, feasible, and effective alternative to thyroidectomy for selected patients, offering substantial volume reduction and rapid symptom relief. To build on these promising early results, a multi-institutional registry study is being planned to further evaluate the procedure’s long-term outcomes and broader applicability.

“Thyroid diseases pose a considerable threat if left untreated for an extended period and are linked to higher cardiovascular disease risk, compromise of cerebral blood flow, and osteoporosis,” the authors write, encouraging “prompt treatment” whether it is major surgery such as thyroidectomy or a minor one such as PED-TAE. — Jackie Oberst

The Hidden Hepatotoxicity of Zoledronic Acid

The safety profile of zoledronic acid (ZOL), a powerful bisphosphonate widely used for osteoporosis and metastatic bone diseases in cancer patients, has historically been regarded as well-established. Common side effects such as fever, myalgia, and flu-like symptoms are manageable and transient. However, a recent case report in the *JCEM Case Reports* journal highlights a rare but serious concern: acute, drug-induced liver injury (DILI).

Titled “**Drug-Induced Liver Injury After Zoledronic Acid Infusion and Literature Review,**” this case involves a 50-year-old female breast cancer patient, already on hormonal therapy with anastrozole and abemaciclib, who developed severe body aches, nausea, and abdominal bloating within hours of her first annual ZOL infusion for aromatase inhibitor-induced osteoporosis. Laboratory testing revealed a dramatic and acute elevation of liver enzymes, leading to a diagnosis of hepatocellular DILI. Notably, her previously normal liver enzymes returned to baseline within 11 days after the event.

“Although a rare side effect, the risk for liver injury secondary to zoledronic acid in patients taking other potentially hepatotoxic medications should be considered,” says Christopher Boldt, a physician at Baylor College of Medicine and primary author. “In these cases, patients may be trialed on a different bisphosphonate or other antiresorptive medication.”

This rare complication underscores a growing challenge in modern medicine: managing polypharmacy and navigating unexpected drug-drug interactions, particularly for oncology patients. The rapid onset and severity of the reaction — in this case, within hours of infusion — highlight the importance of close post-infusion monitoring, especially for patients taking other hepatotoxic drugs.

According to the study, this is only the sixth reported instance of ZOL-induced hepatotoxicity in the literature, making it an exceptionally rare event. Nonetheless, the quick resolution of liver enzymes after holding the ZOL, while the aromatase inhibitor and abemaciclib were also briefly paused, strongly suggests ZOL as the primary culprit. The patient later tolerated the resumption of her other therapies without incident.

The main takeaway for physicians is to keep DILI in mind as a possible, though rare, differential diagnosis for patients presenting with acute, non-specific symptoms following ZOL infusion. While most adverse events are mild and flu-like, the presence of severe bone pain, nausea, abdominal symptoms, and elevated liver function tests should prompt immediate investigation for potential liver injury.

The patient’s successful transition to an alternative oral bisphosphonate (alendronate) without recurrence of liver issues offers a clear management pathway: Once ZOL is identified as the cause, alternative medications can provide continued bone protection.

As medicine advances toward increasingly complex, multidrug regimens for chronic diseases and cancer survivorship, this case serves as a critical reminder of the ongoing need for vigilant pharmacovigilance and personalized risk assessment. Ensuring the benefits of powerful therapies like ZOL are not compromised by rare but severe reactions remain essential. Awareness and rapid action can make a significant difference, even when the complication is exceptionally uncommon. — *Jackie Oberst*



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As medicine advances toward increasingly complex, multidrug regimens for chronic diseases and cancer survivorship, this case serves as a critical reminder of the ongoing need for vigilant pharmacovigilance and personalized risk assessment.

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While this study points to HA as a main culprit compromising heart health, it only measured serum testosterone — other androgens might also play a role. Future studies to look at these as well as other hormones such as estrogen, insulin, and cortisol, should be considered.

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Why High Testosterone Poses a Silent Threat to Women's Hearts

A major shift is underway in women's endocrine health that is changing how the medical community approaches Polycystic Ovary Syndrome (PCOS) and its link to cardiovascular risk. Recent findings published in the *European Journal of Endocrinology*, titled “**Hyperandrogenaemia, Polycystic Ovary Syndrome, and Physical Fitness in Women — a Northern Finland Birth Cohort Study**,” stem from a large population-based study of 5,889 women, whose hormone profiles and lifestyle habits were tracked at ages 31 and 46 years. Central to the study is the paradoxical finding that women with higher androgen levels, especially testosterone, demonstrated greater muscular power — measured by grip strength — but had impaired heart-lung function. This impairment led to a decreased capacity for sustained physical activity, revealing a disconnect between visible strength and underlying aerobic fitness.

Historically, PCOS has been tied to cardiovascular risk factors like obesity and insulin resistance. However, the study clarifies that not every woman with PCOS has high androgen levels (hyperandrogenaemia, HA), and conversely, not all women with HA have PCOS. By analyzing a diverse group, researchers were able to pinpoint that it's the elevated androgen levels — not just the PCOS diagnosis — that independently raise long-term cardiovascular risk. The study found that PCOS alone did not account for differences in fitness; rather, hormone levels, specifically HA, were the critical factor.

One of the most compelling results involved the Free Androgen Index, a marker of bioavailable testosterone. Women in the highest quartile of this index were significantly more likely to fail a standardized step-test from exhaustion. This is a key insight because low cardiorespiratory fitness

(CRF) is a stronger predictor of overall and cardiovascular mortality than other common risk factors like smoking, high blood pressure, or type 2 diabetes.

While this study points to HA as a main culprit compromising heart health, it only measured serum testosterone — other androgens might also play a role. Future studies to look at these as well as other hormones such as estrogen, insulin, and cortisol, should be considered, the authors write.

The clinical implications are immediate and significant. The research supports a movement toward more tailored exercise recommendations for women with HA and PCOS. Whereas existing guidelines focus largely on weight management, the new evidence suggests greater emphasis should be placed on boosting heart endurance and aerobic capacity. Women with high androgen levels may seem physically fit or active, yet they harbor an invisible risk that general exercise advice may not sufficiently address.

Healthcare professionals are urged to look beyond surface-level strength and consider interventions, such as brisk walking, swimming, and cycling, that target and improve cardiorespiratory fitness. Standard advice to simply “exercise more” is inadequate — programs must specifically aim to build aerobic stamina to counteract the increased cardiovascular risk linked to hyperandrogenaemia. As research continues to shed light on the complex connections between hormones, physical fitness, and heart health, clinicians must evolve their recommendations to safeguard patients against this hidden but serious threat. — Jackie Oberst 

“Managing diabetes after transplant is incredibly nuanced. These patients have just gone through major surgery, are on high doses of steroids and immunosuppression, and are trying to rebuild their strength. I co-run a shared clinic with our diabetes educator, Diane Snyder, where patients talk about their experiences in a very open way. **It’s inspiring — patients with long-standing diabetes share their struggles and often their regrets too; they help motivate those who are newly diagnosed after transplant.**”

Manasi Shah, MD, assistant professor of medicine, Eastern Virginia Medical School, Norfolk, Va., when asked about what she learns from her patients who are dealing with diabetes post-organ transplant in the Early-Career Corner article **“Building Bridges”** on page 34.

30%



Reduction in post-meal blood sugar spikes when walking immediately after eating. SOURCE: SPORTS MEDICINE

4 to 6 months



Breastfeeding for four to six months has been identified by researchers as being associated with reduced risk of central precocious puberty blockers.

SOURCE: JAMA

77%

Proportion of men with normal total and free testosterone after anti-obesity medication use, up from 53% at baseline.

SOURCE: ENDO 2025 PRESENTATION BY SHELLSEA PORTILLO CANALES, MD, ENDOCRINOLOGY FELLOW AT SSM HEALTH ST. LOUIS UNIVERSITY HOSPITAL



Increased likelihood of irregular periods and hormonal imbalances in women exposed to disrupted light schedules, especially as a result of shiftwork.

SOURCE: ENDO 2025 PRESENTATION BY ALEXANDRA YAW, PHD, A POSTDOCTORAL FELLOW IN THE DEPARTMENT OF ANIMAL SCIENCE AT MICHIGAN STATE UNIVERSITY



50%

53%

The percentage by which diabetes risk is elevated in adults who reported feeling lonely most days of the week. SOURCE: BMC PUBLIC HEALTH



Top Endocrinologist Work Environments



33% Office-based multispecialty practice

15% Office-based single-specialty group practice

15% Hospital

SOURCE: MEDSCAPE ENDOCRINOLOGY PRACTICE ISSUES REPORT 2025

ENDO 2026

Chicago, Ill. • June 13 – 16, 2026



We hope to see you at **ENDO 2026**, taking place June 13 – 16, 2026, in Chicago, Ill. With more than 7,000 attendees, nearly 2,000 abstracts, and more than 200 other sessions, **ENDO** is the top global meeting on endocrinology research

and clinical care. **ENDO** provides the opportunity to collaborate with an unparalleled list of endocrinologists, healthcare practitioners, and leading scientists from around the world. Through sharing our experience, advice on patient care, and new advances in research, we move the needle forward in hormone health and science. Our outstanding slate of world-renowned speakers will showcase the most cutting-edge advances in research and medicine, with presentations spanning the spectrum of science, clinical care, and social implications.

<https://www.endocrine.org/meetings-and-events/endo-2026-save-the-date>

Neuroscience 2025

San Diego, California

November 15 – 19, 2025

Each year, scientists from around the world congregate to discover new ideas, share their research, and experience the best the field has to offer. Attend so you can present research, network with scientists, attend session and events, and browse the exhibit hall. Join the nearly half a million neuroscientists from around the world who have propelled their careers by presenting an abstract at an SfN annual meeting — the premier global neuroscience event.

<https://www.sfn.org/meetings/neuroscience-2025/>

Lab Manager 2025 Quality & Compliance Digital Summit

Virtual

December 9, 2025

Elevate your lab's quality and standards at the Quality & Compliance Digital Summit on December 9, 2025. Discover how to exceed regulatory expectations and foster a culture of excellence in every aspect of your lab's operations. Attendees will learn how to navigate evolving regulations, implement robust quality management systems, and optimize lab workflows for compliance. This summit is essential for professionals seeking to stay compliant with industry standards, improve lab operations, and ensure the highest quality in their processes. Don't miss this opportunity to elevate your lab's quality and compliance practices.

<https://www.labmanager.com/2025-quality-compliance-digital-summit-33204>

ENDOCRINE ITINERARY

27th Davidson-Mestman Intensive Course

Miami, Florida

December 10 – 13, 2025

Presented entirely in Spanish, the main objective of this intensive course is to provide physicians with specialized and advanced training in the diagnosis, treatment, and comprehensive management of patients with endocrine disorders, diabetes, and associated cardiovascular diseases, obesity, and endocrine cancers. The program will focus on updating and honing participants'

clinical skills, enabling them to deliver cutting-edge, personalized medical care in these specialized areas.

<https://www.cursodavidsonmestman.com/>

NASIT 2026

Portland, Oregon

March 6 – 7, 2026

The North American Society for Interventional Thyroidology (NASIT) is the largest, multidisciplinary group in the United States dedicated to the field of interventional thyroidology. The society

was created to promote safe integration of ablative thyroid technologies into clinical practice and a collaborative environment that supports education and research efforts in interventional thyroidology. NASIT holds an annual meeting that includes one and a half days of expert panel sessions, scientific presentations, and the most up-to-date information on innovative technologies in the field.

<https://www.nasit.org/Annual-Meeting>

INTERNATIONAL ITINERARY

SAEM 2025

Buenos Aires, Argentina

November 6 – 8, 2025

The 24th Congress of the Society of Endocrinology and Metabolism (SAEM) will be held at the University of Buenos Aires (UCA) in Puerto Madero, Buenos Aires, Argentina. As has been a feature throughout its history, SAEM offers a first-class scientific program, featuring excellent speakers and the presence of distinguished foreign guests, experts in each discipline. This is a highly valued experience by both trainee and experienced endocrinologists, not only at the national level but also throughout Latin America. SAEM 2025 will cover a wide range of topics of current interest in diagnosis and treatment, such as cardio metabolism, obesity, diabetes, bone metabolism, and other traditional topics. The results of the latest treatments and drugs under investigation will also be showcased.

<https://congresosaem.com.ar/>

Thyroid Education Day 2026

Birmingham, England

January 30, 2026

Thyroid Education Day will be an interactive event aimed at adult and pediatric endocrinologists, thyroid surgeons, and oncologists to discuss the latest developments and guidelines in the management of thyroid disorders. This face-to-face event will bring together experts in the field of thyroid dysfunction, thyroid nodules, thyroid cancer, and thyroid diseases in pregnancy. Discussions will be case-based and highlight pragmatic and cutting-edge approaches to common and complex thyroid conditions focusing on new national and international clinical practice guidelines.

<https://www.endocrinology.org/events/thyroid-education-day/thyroid-education-day-2026/>

World Endocrine, Diabetes & Cardiovascular Conference (EDCC26)

Bangkok, Thailand

March 6 – 7, 2026

The World Endocrine, Diabetes & Cardiovascular Conference 2026 (EDCC26) will be organized around the theme of “Interdisciplinary Approaches to Endocrine Health.” The program includes local and international speakers with inspiring insights to share on advancing endocrinology, diabetes, cardiovascular health, and metabolism quality improvement through patient and family experiences. EDCC26 will feature leading experts, researchers, and healthcare professionals from around the globe and will serve as a platform for the exchange of knowledge, ideas, and insights in the fields of endocrinology, diabetes, obesity, and more.

<https://endocrine.episirus.org/bangkok/>

ATTD 2026

Barcelona, Spain

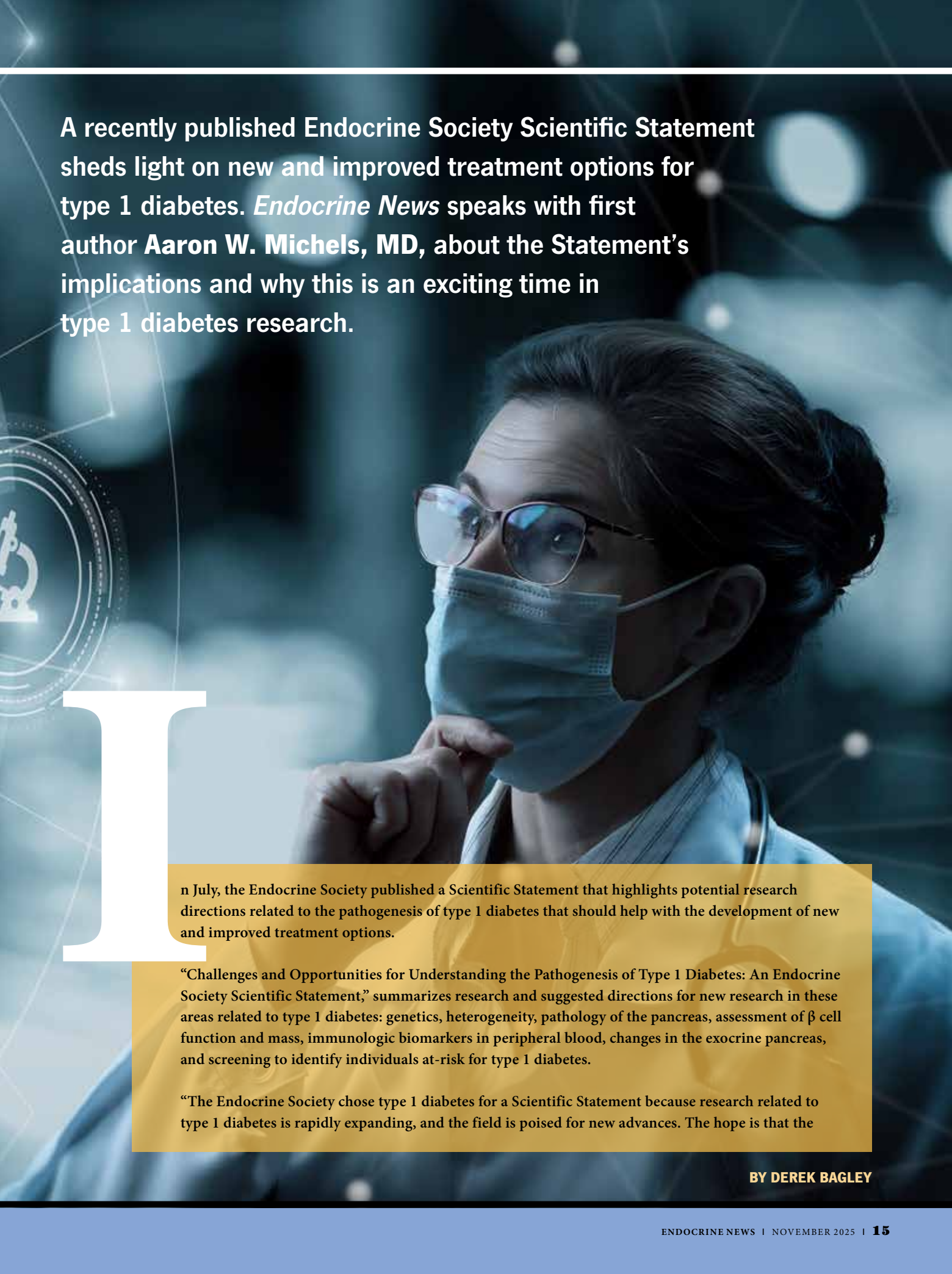
March 11 – 14, 2026

The landscape of diabetes care is evolving fast and the 19th International Conference on Advanced Technologies & Treatments for Diabetes (ATTD) 2026 is where technology, innovation, and research converge to shape the next era of treatment. From AI-driven solutions to the latest in digital health, smart devices, and groundbreaking therapies, this is the conference that defines what's next in diabetes management. Connect with global experts, industry leaders, and visionaries pushing the boundaries of what's possible.

<https://attd.kenes.com/>

Developing
New and
Improved
Treatment
Options for
Type 1 Diabetes

challenges
and
opportunities



A recently published Endocrine Society Scientific Statement sheds light on new and improved treatment options for type 1 diabetes. *Endocrine News* speaks with first author **Aaron W. Michels, MD**, about the Statement's implications and why this is an exciting time in type 1 diabetes research.

In July, the Endocrine Society published a Scientific Statement that highlights potential research directions related to the pathogenesis of type 1 diabetes that should help with the development of new and improved treatment options.

“Challenges and Opportunities for Understanding the Pathogenesis of Type 1 Diabetes: An Endocrine Society Scientific Statement,” summarizes research and suggested directions for new research in these areas related to type 1 diabetes: genetics, heterogeneity, pathology of the pancreas, assessment of β cell function and mass, immunologic biomarkers in peripheral blood, changes in the exocrine pancreas, and screening to identify individuals at-risk for type 1 diabetes.

“The Endocrine Society chose type 1 diabetes for a Scientific Statement because research related to type 1 diabetes is rapidly expanding, and the field is poised for new advances. The hope is that the

BY DEREK BAGLEY



Aaron W. Michels, MD

Scientific Statement will provide scientists, physicians, and funding agencies with a guide for areas of research that seem particularly promising,” says Alvin C. Powers, MD, of Vanderbilt University Medical Center in Nashville, Tenn., a member of the writing group.

The statement is based on the authors’ updated version of the widely cited and often modified Eisenbarth model, which outlines the different stages of progression to type 1 diabetes. The Scientific Statement proposes that Stage 0 be added to this model, which already included Stages 1, 2, and 3, to highlight that there are likely events occurring earlier in the disease that currently are not understood or being studied.

How Far We’ve Come — and Still Have to Go

Four years ago marked the 100th anniversary of the discovery of insulin; Leonard Thompson’s life was saved, and it changed the world. Until then, type 1 diabetes was basically a death sentence, and even when insulin became available, the average person with diabetes had to spend about half their income on insulin.

“The centennial celebration of the discovery of insulin in 1921 provided a reminder that this breakthrough has saved millions of lives, especially those with [type 1 diabetes],” the authors of the Scientific Statement write.

Aaron W. Michels, MD, a professor of medicine at the Barbara Davis Center for Diabetes at the University of Colorado Anschutz, Aurora, tells *Endocrine News* that the centennial of insulin underscored how far we’ve come — yet also how far we still have to go, as type 1 diabetes remains associated with significant morbidity and mortality. With rapid advances in immunotherapy, pancreas research, and disease staging, the field needed a unifying document to summarize current knowledge gaps and chart priorities for the next era of prevention and cure.

“We’re more than a century past the discovery of insulin, and yet type 1 diabetes still carries a heavy burden,” Michels says. “With so many breakthroughs happening at once — from immunotherapies to studying the human pancreas — we felt the field needed a roadmap to identify what we know, what we don’t, and where we must go next.”





Theory to Reality

The authors of the Scientific Statement write that research in type 1 diabetes is expanding and currently fall into three broad categories: (1) delivery of exogenous insulin (for example, insulin analogs, automated insulin delivery devices); (2) disease-modifying therapies to treat the underlying β -cell-directed autoimmunity (teplizumab, B- or T-cell-directed interventions, anti-cytokine therapies, antigen-specific immunotherapies); and (3) therapies that seek to increase endogenous insulin production and secretion (transplantation of insulin-producing cells or islets, protection or expansion of remaining endogenous β -cells, transdifferentiation of other cell types into insulin-producing cells).

According to Michels, the approval of teplizumab marked a paradigm shift in treating type 1 diabetes as an immune-mediated disease rather than solely a metabolic one. Second, novel insights into human disease pathogenesis from studying the pancreas (pancreata) from organ donors with type 1 diabetes are rapidly expanding what's biologically possible.

"The approval of teplizumab was a watershed moment because it proved we can delay the onset of type 1 diabetes by targeting the immune system," Michels says. "At the same time, technologies like automated insulin delivery and stem cell-derived beta-cell replacement are moving from theory to reality. It's an incredibly hopeful time."

The authors write that programs like Network for Pancreatic Organ Donors with Diabetes (nPOD) and Human Islet Research Network and the Human Pancreas Analysis

“ Insulin rationing in a century-old disease is unacceptable. **Policy reform, expanded biosimilar competition, and decoupling insulin access from insurance status are all critical steps — alongside emergency access programs — to ensure that no one lacks a medication that's been around for 100 years.**”

— AARON W. MICHELS, MD, PROFESSOR OF MEDICINE,
BARBARA DAVIS CENTER FOR DIABETES,
UNIVERSITY OF COLORADO ANSCHUTZ, AURORA

“ We used to view type 1 diabetes as one disease, but we now realize there are multiple ‘flavors’ of it. **A child who develops type 1 diabetes at age five may have very different biology than someone diagnosed at 35, and recognizing those differences could help us match the right therapy to the right person.**”

— AARON W. MICHELS, MD, PROFESSOR OF MEDICINE,
BARBARA DAVIS CENTER FOR DIABETES,
UNIVERSITY OF COLORADO ANSCHUTZ, AURORA



Program (HPAP) have revolutionized access to high-quality human pancreatic tissue from donors across the type 1 diabetes disease spectrum. These resources now allow researchers to study early lesions, immune infiltration patterns, and cellular stress responses within islets in unprecedented detail.

Another point the authors make is that it is becoming increasingly clear that type 1 diabetes is not a single disease but a spectrum influenced by age of onset, genetic background, immune signatures, and rate of beta-cell loss. Defining subtypes could allow researchers to match therapies to disease mechanisms and clinicians to predict who will respond — or not respond — to specific interventions.

“We used to view type 1 diabetes as one disease, but we now realize there are multiple ‘flavors’ of it,” Michels says. “A child who develops type 1 diabetes at age five may have very different biology than someone diagnosed at 35, and recognizing those differences could help us match the right therapy to the right person.”

Emerging Evidence

These new research avenues have led to new evidence that lead to breakthroughs and better outcomes for people with type 1 diabetes. For instance, the authors of the statement ask a question in the Knowledge Gaps section on beta-cell function assessment about whether these beta-cells in someone with type 1 diabetes could be “sleeping” and maybe recoverable. “Emerging evidence suggests that some beta-cells may be functionally silent rather than fully destroyed,” Michels says. “If we learn how to reactivate or rescue these dormant cells, it could open a path to

restoring endogenous insulin production even in people with established type 1 diabetes.”

A future effort the authors suggest is the continued development of clinically safe beta-cell tracers for in vivo imaging in humans. Michels explains that imaging pancreatic beta cells is a significant challenge as there are very few beta cells dispersed throughout the pancreas. “Having a safe and specific tracer would improve our ability to directly measure beta cell mass in real time,” he says.

Insulin Rationing Is Unacceptable

In November 2021, *Endocrine News* published an article titled “The Cost of Living (with Diabetes),” referencing a paper that appeared in the *Mayo Clinic Proceedings* detailing the account of a patient with type 1 diabetes in his mid-20s who worked as a restaurant manager in Minnesota. He couldn’t afford the deductible and monthly premiums of his insurance, and he couldn’t afford to pay for his insulin with cash, so he tried to ration his insulin. He was found dead in his apartment from diabetic ketoacidosis.

“Insulin rationing in a century-old disease is unacceptable,” Michels says. “Policy reform, expanded biosimilar competition, and decoupling insulin access from insurance status are all critical steps — alongside emergency access programs — to ensure that no one lacks a medication that’s been around for 100 years.”



Aside from Powers and Michels, the writing committee also included Todd M. Brusko, PhD; Carmella Evans-Molina, MD, PhD; Dirk Homann, MD; and Sarah J. Richardson, PhD.

“Challenges and Opportunities for Understanding the Pathogenesis of Type 1 Diabetes: An Endocrine Society Scientific Statement” was published in the September 2025 issue of *The Journal of Clinical Endocrinology & Metabolism*, and online in July 2025.

It is available at: <https://academic.oup.com/jcem/article/110/9/2496/8190165>.



In March 2023, Eli Lilly lowered the price on its most popular insulins, with Novo Nordisk and Sanofi following suit shortly thereafter, but only after the \$35 monthly price cap for people on Medicare that was mandated by the Inflation Reduction Act. And while this was a dose of good news, experts warned that the act was just the first step on a long journey.

The authors of the Scientific Statement pose the question of whether early screening for diabetes (which could be expensive, especially if implemented on a national scale) should be cost-effective or cost-agnostic, especially if early detection could offset financial burden on patients later in life.

“While cost is an unavoidable consideration for policymakers, I would argue that early screening may ultimately save money by preventing life-threatening diabetic ketoacidosis (DKA) and delaying disease onset,” Michels says. “In that sense, the real question may not be ‘Can we afford to screen?’ but ‘Can we afford not to screen for type 1 diabetes?’”

Transformational Era

Michels says that type 1 diabetes research is entering a transformational era — where prevention and beta-cell restoration are no longer theoretical. But realizing that the future will require collaboration, investment, and a shift from managing disease to modifying its course.

“The biggest message we want to send is this: Type 1 diabetes is no longer just something to be managed — it’s something we can delay and potentially reverse,” Michels says. ^{EN}

Hidden Skeletal Consequences of Adolescent Obesity:

New research
reveals long-term
bone health
implications.



BY KELLY HORVATH



Fida Bacha, MD

Research presented at **ENDO 2025** suggests that adolescents with both obesity and type 2 diabetes could be at a higher risk for fractures and osteoporosis later in life. Lead researcher Fida Bacha, MD, discusses her group's findings as well as the impact of insulin resistance and hyperglycemia on bone development in this population.

In new research presented in July at **ENDO 2025** in San Francisco, Calif., lead researcher Fida Bacha, MD, of Baylor College of Medicine in Houston, Texas, and team shed new light on one of the major public health challenges of the 21st century: the childhood obesity epidemic. While this epidemic is a global problem, reaching across ethnicity and socioeconomic classes, in the United States, Hispanic youth bear a disproportionate burden. According to the Centers for Disease Control and Prevention, Hispanic children have an obesity prevalence of 26.2%, which is the highest among all racial/ethnic groups.

At Bacha's laboratory at the Children's Nutrition Research Center (CNRC) at Baylor, researchers study the risk factors and mechanisms underlying the pathogenesis of the metabolic complications related to childhood obesity and insulin resistance. Among their latest discoveries is a potentially devastating long-term consequence of these intertwining conditions — compromised bone development during the adolescent years when lifelong skeletal strength is established. While these effects may have gone unnoticed until recently in this population, their implications for long-term health are all too obvious. Impaired skeletal development could mean early osteoporosis in adulthood and increased fracture risk, with all of the associated increased morbidity and mortality that carries.

Growing Bodies of Evidence

Bacha's latest research builds on her team's previous work published in 2022 in *The Journal of Clinical Endocrinology & Metabolism*. In "Adiposity, Insulin Resistance, Cardiorespiratory Fitness, and Bone Health in Hispanic Children," they demonstrated the striking finding that insulin resistance seems to be a culprit mediating the negative relationship between fat mass and bone mass. "While adults with type 2 diabetes are known to have increased risk of fractures, this has not been investigated in youth with type 2 diabetes," Bacha explains. "We wanted to understand how childhood obesity and early type 2 diabetes affect bone health as children grow."

“

We know childhood obesity is associated with insulin resistance, and children with type 2 diabetes have the severe phenotype. **Regarding the comorbidities and complications related to childhood obesity and type 2 diabetes, the skeletal system is another target organ that could be impaired.”**

— FIDA BACHA, MD, PROFESSOR OF PEDIATRICS, CHILDREN'S NUTRITION RESEARCH CENTER, BAYLOR COLLEGE OF MEDICINE; PROFESSOR OF PEDIATRICS, PEDIATRIC ENDOCRINOLOGY AND DIABETES, TEXAS CHILDREN'S HOSPITAL, HOUSTON, TEXAS

Although that study was partly undertaken to fill a gap in the existing literature that had focused thus far on adults, it also served to debunk a prevalent myth. Higher body weight was thought to contribute to osteogenesis in children, given the increased mechanical loading on bones; however, other factors were found to disrupt that process, namely the compounding effects of adiposity and insulin resistance. The current research, says Bacha, is a “logical extension” of that work. “We know childhood obesity is associated with insulin resistance, and children with type 2 diabetes have the severe phenotype. Regarding the comorbidities and complications related to childhood obesity and type 2 diabetes, the skeletal system is another target organ that could be impaired.”

For the current study, partially funded by both the U.S. Department of Agriculture and the National Institutes of Health, the team followed 48 teenagers (average age 15.5 years) for one year. Of the cohort, 27% were normal weight, 31% were

classified as overweight with normal blood glucose levels, and 42% were overweight with impaired blood glucose control, including prediabetes (four teens) and type 2 diabetes (16 teens). Researchers measured participants' adiposity, fitness level, and glucose and insulin levels, along with detailed bone structure and strength assessments of the lower leg (tibia) and forearm (radius). “Although not a lot of work had been done previously on the effect of obesity on the skeletal system, our study published in JCEM showed that insulin resistance does contribute to the relationship between obesity and whole body bone mineral content. Here, we took it a step further to look more into the microarchitecture using high-resolution peripheral quantitative CT,” Bacha says.

Bacha explains that the study findings supported their ongoing hypothesis that teens with obesity, especially those with type 2 diabetes, showed less improvement in upper and lower extremity bone strength and quality over time compared to adolescents



of normal weight, and, again, that insulin resistance seemed to correlate with less increase in bone strength. Details of this research are soon to be published.

Adolescence and Bone Development

These findings carry particular significance given the nature of adolescent bone development. The teenage years represent the most important period for building lifelong bone strength, with approximately 40% of peak bone mass accrued during adolescence. Bone mass in childhood is likewise known to be a strong predictor of bone status in early adulthood. This makes any interference with bone development during this period especially concerning for long-term skeletal health. From their prior research, Bacha and team are aware of the particular vulnerability of the pubertal population, in whom the negative relationship between obesity and bone outcomes was more pronounced compared to prepubertal youth, again deepening concern about this critical window for bone mass accumulation.

“We see insulin resistance playing a role, but we also need to look further into hyperglycemia,” Bacha explains, regarding the underlying mechanisms. “We studied a relatively small number of children with type 2 diabetes and across a very narrow range of hyperglycemia, so we really need to study a larger number of children across the glycemia spectrum to understand better the effect of hyperglycemia on these relationships,” she says.

The research suggests that the negative effects of obesity on bone health are not simply due to excess weight but rather involve complex metabolic pathways. Insulin resistance, and potentially also hyperglycemia, appear to disrupt normal bone metabolism, potentially affecting both bone formation and resorption processes. This metabolic interference may undermine potential benefits from increased mechanical loading.

Future Research

Bacha’s research program continues to evolve, with several important directions for continuing investigation. “We hope that our future studies will try to also uncover the effects of different therapeutics and what ages may be more susceptible to the adverse effects of diabetes on bone,” she explains. The team also sees the need to expand their work to include larger numbers of children across a broader range of glycemic control, which could provide more definitive answers about the relationship between hyperglycemia and bone health. Future research will also need to extend follow-up periods to better understand the long-term skeletal consequences of adolescent metabolic dysfunction. In addition to establishing clearer causal mechanisms and exploring therapeutic interventions on bone



AT A GLANCE

- ▶ Children and teens with obesity showed less whole-body bone mineral content over time compared to peers of normal weight, and this effect was amplified in the setting of type 2 diabetes.
- ▶ Insulin resistance and hyperglycemia may have negative effects on bone development in obese adolescents, the period when 40% of peak bone mass is established.
- ▶ Higher fitness levels can counter the negative bone effects of insulin resistance.



“ Although not a lot of work had been done previously on the effect of obesity on the skeletal system, our study published in JCEM showed that insulin resistance does contribute to the relationship between obesity and whole-body bone mineral contents. **Here, we took it a step further to look more into the microarchitecture using high-resolution peripheral quantitative CT.**”

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PROFESSOR OF PEDIATRICS, PEDIATRIC ENDOCRINOLOGY AND DIABETES,
TEXAS CHILDREN'S HOSPITAL, HOUSTON, TEXAS

outcomes, they hope to undertake comparative analyses between adult and adolescent populations.

What We Can Do Now

While definitive answers to pathophysiology and management questions are being sought, lifestyle changes are an important intervention clinicians can counsel patients to make. Says Bacha: “One of the things our previous results showed in terms of the relationship of obesity to whole body bone mineral content is that having better cardiorespiratory fitness would be protective and counter the effect of insulin resistance.” In that study, youths with higher cardiorespiratory fitness showed better bone outcomes, independent of their weight status.

“So, what we would advocate for clinicians to understand,” Bacha continues, “is that the skeletal system could be negatively affected and that we should emphasize the importance of optimizing nutrition to reduce weight but also increase physical activity.”

The team's research contributes to a growing body of evidence that pediatric obesity affects multiple organ system, with consequences that extend far into adulthood. The skeletal implications add another layer of urgency to obesity prevention and treatment efforts in youth. The findings also highlight the importance of early intervention. Given that peak bone mass is largely determined during the first two decades of life, any compromise in bone development during childhood and adolescence can have lifelong consequences for fracture risk and osteoporosis development.

Bacha says the research was well received at **ENDO** and that she fielded lots of great questions from the audience. “I appreciate the interest in our work,” Bacha says, “and I think we are hoping that we raise awareness about this issue and advance the science related to bone health in childhood. Obesity and type 2 diabetes affect the whole body system, and bone health is yet another aspect that we're uncovering that is really important.”

More will be revealed in their upcoming manuscript, but Bacha and team have given us lots to think about in the meantime about how to make care more comprehensive and reaching vulnerable populations. **EN**

— HORVATH IS A FREELANCE WRITER BASED IN BALTIMORE, MD. IN THE OCTOBER ISSUE, SHE WROTE ABOUT THE HISTORICAL PERSPECTIVE OF HUMAN GROWTH HORMONE AND PROTEIN-MISFOLDING DISEASES.



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Obesity management medications (OMMs) have changed the way clinicians treat obesity, diabetes, and a host of other comorbidities. Endocrine Society member Lisa Neff, MD, highlights the vital and evolving role of lifestyle in comprehensive obesity care and shares important nutritional considerations for patients treated with OMMs — a topic that she and an expert team of co-authors addressed in a recent clinical review.

NUTRITION *matters*



Optimizing Outcomes with Obesity Medications

BY LISA NEFF, MD

The latest generation of approved obesity management medications (OMMs), including glucagon-like peptide-1 (GLP-1) receptor agonists (RA) like semaglutide and the GLP-1/glucose-dependent insulinotropic polypeptide (GIP) RA tirzepatide, work by targeting biological pathways that regulate appetite and metabolism.¹ As an adjunct to a reduced-calorie diet and physical activity, these OMMs have been shown to reduce appetite and food intake and produce clinically meaningful mean body weight reductions of 15% or more, while having a generally favorable safety profile.



Lisa Neff, MD

OMMs: An Evolution in Obesity Treatment

Lifestyle change, including dietary modification and physical activity, is a cornerstone of obesity treatment, often promoting modest but clinically meaningful weight loss and leading to improvements in obesity-related complications.¹ However, the adaptive hormonal and metabolic responses to weight loss can drive increased appetite and reduced metabolic rate (energy expenditure), which may make it difficult for individuals to maintain a reduced body weight over time.¹ By helping regulate hunger and satiety, OMMs can enable patients to achieve and maintain greater weight reduction than with lifestyle alone, and as a result, they are increasingly being integrated into obesity care.¹

The changes in hunger, satiety, and food preferences that have been observed during treatment with incretin-based OMMs are generally beneficial in the treatment of obesity, as they may enable reduced food intake and weight reduction.¹ For example, cravings for high-fat foods, sugary foods, and alcohol may be diminished. Of course, you would have to use your prodigious editing skills to make that a tasteful statement.² However, in the setting of reduced dietary intake, key nutritional needs must still be met to ensure optimal outcomes, and a focus on dietary quality and balanced intake (i.e., eating enough for optimal health) is key.

Identifying and Addressing Nutritional Risk Factors Before and During OMM Treatment

Individuals with obesity are at risk of nutritional deficiencies, even prior to treatment.^{1,3} For example, patients undergoing preoperative evaluation for bariatric surgery often have evidence of micronutrient deficiencies, including deficiencies of vitamin D, vitamin B12, folate, thiamine, iron, and zinc.¹ Inadequate intakes of other micronutrients, such as calcium, have also been reported in people with obesity.¹ This underscores the importance of comprehensive nutritional assessment and treatment of preexisting micronutrient deficiencies prior to obesity treatment.





There is limited data available about the risk of nutritional deficiencies during treatment with OMMs. However, we know that nutritional complications can occur with other obesity treatments (e.g., very low-calorie diets or bariatric surgery) due to reduced nutrient intake, and in the case of surgery, also decreased nutrient absorption.^{1,3} For patients treated with OMMs, decreased dietary intake, driven by appetite changes or in some cases by gastrointestinal adverse events like nausea, might lead to inadequate nutrient intake and result in a deterioration of nutritional status.¹ To reduce this risk, patients should receive dietary counseling, ideally from a registered dietitian, prior to and during OMM treatment. In addition, patients' response to treatment should be monitored regularly, so that action can be taken as needed to reduce nutritional risks and optimize outcomes.¹

Practical Strategies for Optimizing Nutritional and Medical Outcomes with OMM Treatment

Patients treated with OMMs will likely benefit from regular nutritional counseling and monitoring of dietary intake and nutritional status. Clinicians can leverage practical strategies to assist patients, including:¹

► **Provide a referral to a registered dietitian:** Partnering with a registered dietitian for medical nutrition therapy can help improve dietary quality, health outcomes, and weight-loss outcomes.¹

- A registered dietitian can help create personalized meal plans tailored to individual nutrient requirements that account for a patient's age, sex, body weight, physical activity level, comorbid conditions, as well as dietary preferences, and budgetary or other constraints, which can improve adherence.

► **Advise on recommended intake targets:** Educate patients on the importance of meeting fluid and nutritional needs, even if appetite is suppressed and hunger and thirst cues are absent.¹

- Shift the focus from eating less (restriction of calories or macronutrients, or skipping meals) to eating enough for optimal health.
- Provide guidance on recommended intake goals and sources of key nutrients, including protein, fiber, carbohydrates, vitamins, and minerals.
- Educational materials that emphasize dietary quality and nutritional balance (e.g., the "plate method" — a simple, visual tool for planning balanced meals and prioritizing lean protein foods, whole grains, vegetables, and fruits) may be helpful, as well as digital technologies such as apps to monitor progress.
- For patients unable to meet nutritional needs through diet alone, dietary supplements should be considered. These may include protein shakes (i.e., a liquid meal replacement containing 15 – 25 grams of protein), a complete multivitamin, calcium and vitamin D, and/or fiber supplements. Treatment

of existing micronutrient deficiencies may require targeted treatment, rather than reliance on a multivitamin or food sources.

► **Recommended intake goals:**¹

- Fluid: >2 – 3 L/day
- Protein: 0.8 – 1.5 g/kg body weight/day (at least 60 – 75 g/day)
- Fiber: >21 g/day (women) or >30 g/day (men)
 - Fiber supplementation may be recommended when intake from whole foods is insufficient.
- Energy: At least 1,200 – 1,500 kcal/day (most women) and at least 1,500 – 1,800 kcal/day (most men)
- Macronutrient distribution: Severe restriction of carbohydrates is not necessary and may increase the risk of dehydration and electrolyte imbalance.
- Micronutrients: Treat preexisting vitamin/mineral deficiencies and counsel on a healthy dietary pattern emphasizing nutrient-dense foods, including vegetables, fruits, whole grains, seafood, eggs, legumes, nuts, and seeds, low fat dairy, poultry, and lean meats.

► **Perform regular monitoring:** As OMMs are recommended as part of a long-term obesity management plan, a patient's nutritional requirements may vary at different stages of treatment. Patients' response to treatment should be monitored monthly during dose escalation and regularly (e.g., every three months) thereafter during OMM treatment. This way, any factors that could increase the risk of malnutrition or dehydration can be addressed promptly. These may include significant appetite suppression or gastrointestinal



“

Patients undergoing preoperative evaluation for bariatric surgery often have evidence of micronutrient deficiencies, including deficiencies of vitamin D, vitamin B12, folate, thiamine, iron, and zinc. Inadequate intakes of other micronutrients, such as calcium, have also been reported in people with obesity. **This underscores the importance of comprehensive nutritional assessment and treatment of preexisting micronutrient deficiencies prior to obesity treatment.**

”



adverse events, which could lead to skipped meals and/or poor oral intake of food and/or fluids.

► **Take action to address any nutritional concerns:** If nutritional concerns are identified, management strategies may include dietary modification or supplementation as noted above, OMM dose adjustment, or other medical management (e.g., short term use of medications to manage gastrointestinal symptoms).

The Role of a Holistic Healthcare Team in Obesity Treatment

A personalized, holistic approach to obesity treatment is essential for optimal outcomes.¹ This requires a multidisciplinary team, which may include general practitioners, endocrinologists, dietitians, physical therapists, and mental health experts, to facilitate a treatment plan that emphasizes physical and emotional health rather than simply weight reduction.¹

Lifestyle Counseling and Medical Nutrition Therapy are Cornerstones of Obesity Care

While the increased efficacy and wider availability of OMMs are changing the way we view obesity care, optimal outcomes of obesity treatment are only possible with a healthy lifestyle, including healthy dietary patterns and physical activity.¹ By impacting the biology behind eating behaviors (i.e., hunger and satiety signaling), treatment with OMMs might enable patients to achieve and maintain both a healthier weight and a healthier lifestyle.¹ Additional research is needed to understand how treatment with OMMs impacts dietary intake and to guide nutritional recommendations for patients treated with OMMs. By treating nutrition as an equal and essential partner alongside medication, we can help patients achieve the optimal health they deserve. ^{EN}

Dr. Lisa Neff joined Eli Lilly and Company in August 2021 and serves as an Executive Director in Global Medical Affairs. Prior to joining Lilly, Dr. Neff was an Associate Professor of Medicine in the Division of Endocrinology at Northwestern University in Chicago, where she conducted clinical research; treated patients with obesity, diabetes, and related disorders; and served as teaching faculty for medical trainees. She is an obesity medicine physician, endocrinologist, and clinical nutrition specialist with over two decades of clinical experience, as well as expertise in clinical research related to obesity and nutrition.

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Manasi Shah, MD, discusses how endocrinologists can play an important role in transplant diabetes treatment.

On behalf of the Endocrine Society's Early-Career Special Interest Group (SIG), Milay Luis Lam, MD, talks with Early-Career SIG committee member, Manasi Shah, MD, on bringing science to the transplant bedside and discusses her endocrine journey from her native Mumbai, India, to conducting clinical research in the U.S.

building BRIDGES





Manasi Shah, MD

You could say that treating people with diabetes was the “family business” for Manasi Shah, MD, since both of her parents were involved in treating such patients and arranging diabetes summer camps for children with type 1 diabetes. When she was growing up in India, her first exposure to the world of endocrinology came at a very young age when she witnessed one of her friends undergoing a fingerstick to measure blood sugar levels. “Those moments made me realize how much impact timely care could have,”

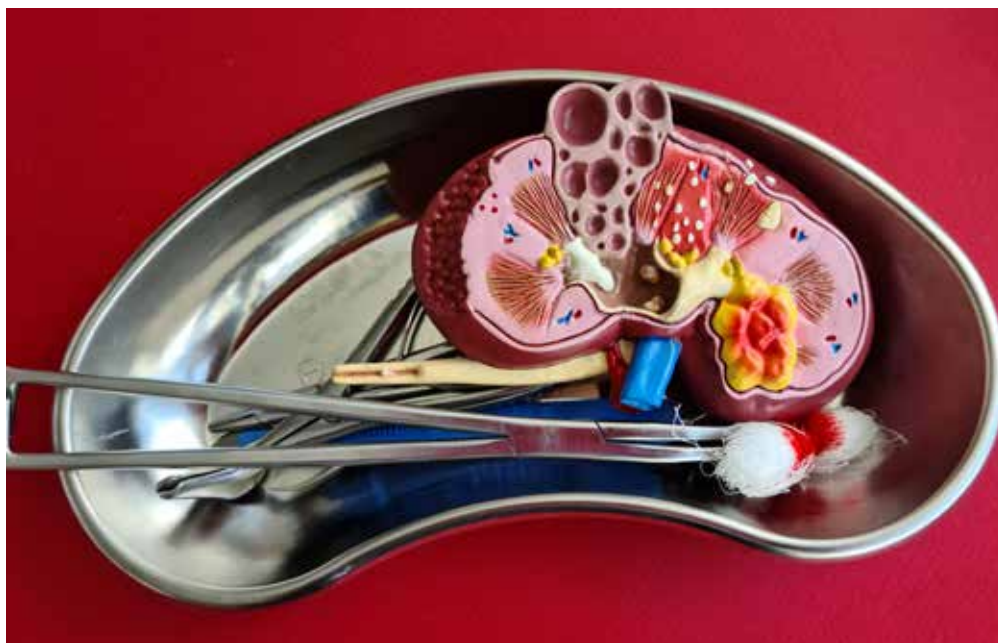
Shah says, “and I decided early on that I wanted to help people with diabetes.”

Fast forward to her current position as an assistant professor of medicine at Eastern Virginia Medical School in Norfolk, Va., where she researches as well as treats patients undergoing kidney and pancreas transplants who have developed post-transplant diabetes. “Clinically, I was struck by how often our transplant patients struggle with glycemic control, weight gain, and complex insulin regimens after surgery,” Shah explains. “When I began prescribing GLP1-RA in this population, I saw dramatic improvements — better glucose control, fewer hypoglycemic episodes, and simpler regimens. Additionally, there are reports of improved graft function and long-term survival with these drugs.”

However, despite the progress she has seen, Shah says that there are still many unanswered questions, “particularly about appetite suppression, protein intake, and lean body mass, which are critical in patients who often lose muscle during pre-transplant dialysis.” Shah speaks to *Endocrine News* about her circuitous career path, her earliest mentors (hint: her parents!), and how a recent grant will help further her research on transplant endocrinology.

Endocrine News: You’ve had a fascinating journey in India as well as the United States through endocrinology. What first sparked your interest?

Manasi Shah: I was very lucky to grow up around endocrinology! Both my parents are physicians specialized in diabetes in Mumbai, and I often tagged along to the diabetes camps



“ I believe we’re entering an era where endocrinologists will play a larger role in transplant medicine — not only in diabetes management but also in obesity treatment, bone health, and metabolic optimization pre- and post-transplant. **We need more evidence to guide diabetes and metabolic care around transplant, and endocrine researchers are perfectly positioned to lead this effort.**”

— MANASI SHAH, MD, ASSISTANT PROFESSOR OF MEDICINE,
EASTERN VIRGINIA MEDICAL SCHOOL, NORFOLK, VA.



they organized for children with type 1 diabetes. I remember being five years old and watching my friend check her fingerstick blood sugars before we could get back to playing.

EN: You’ve had an unusually rich research journey — from multinational clinical trials to basic science labs. Can you share how those experiences shaped you as a physician-scientist?

Shah: My research journey really began in Mumbai, where I volunteered with my parents, who were principal investigators for multinational trials like Saxagliptin Assessment of Vascular Outcomes Recorded in Patients with Diabetes Mellitus (SAVOR)-Thrombolysis in Myocardial Infarction (TIMI) 53 (SAVOR-TIMI-53) and Cardiovascular Outcomes with Sitagliptin (TECOS). With Dr. Shashank Joshi, I worked on some retrospective research studies and presented our work at **ENDO 2014**. After observing basic science research for the first time at Barbara Davis Center of Childhood Diabetes, I was curious to learn more. Fortunately, I was able to join Michael Brownlee’s lab at Albert Einstein College of Medicine as a research scholar to study mechanisms underlying metabolic memory in diabetes complications. I learned to perform qPCR, gel electrophoresis, western blots and tissue culture — and co-authored a paper in *Diabetes* showing how a GLP-1 cleavage product disrupts ROS-generating feedback loops. One of my proudest achievements was co-writing an invited review on the molecular and cellular mechanisms of cardiovascular disorders in diabetes for *Circulation Research* — creating original figures on design software and watching that paper become highly cited.

During my internal medicine residency at University at Buffalo, I worked with Dr. Paresh Dandona on clinical trials and designed my first investigator-initiated biomarker study on galectin-3 in hypogonadism-related insulin resistance, presenting the results at **ENDO 2018**.

In my endocrine fellowship at UT Southwestern Medical School (UTSW), I immersed myself in adipose tissue biology under Dr. Philipp Scherer. I performed human fat biopsies, histology, adipocyte sizing, RNA extraction, and metabolomics for Dr. Kyaw Soe's multi-institutional study of gender-affirming hormone therapy (GAHT) on metabolism. This work won the Outstanding Achievement in Research Award at UTSW and later the **ENDO 2022** Outstanding Abstract Award and is now under submission for publication.

As clinical faculty at Eastern Virginia Medical School (EVMS) at Old Dominion University, I went back to clinical trials; being a co-PI on seminal trials in diabetes with my chair, Dr. Elias Siraj.

None of this would have been possible without the amazing mentorship I have received! Over the last 10 years, my mentors, research coordinators, post-doc researchers, students and patients have taught me to critically analyze data, design rigorous studies, and connect molecular mechanisms to real-world clinical outcomes — skills I now apply in my current transplant endocrinology research.

EN: That's right! You've moved from diabetes research into a very specialized area — transplant endocrinology. How did that transition happen?

Shah: It wasn't planned! At EVMS, I was asked to serve as the director of the Inpatient Diabetes Program and lead endocrinologist at the Sentara Kidney-Pancreas Transplant Center. Suddenly, I was evaluating transplant candidacy for patients with type 1 diabetes, making ethically complex decisions about living donors with prediabetes, and managing post-transplant diabetes in a very vulnerable population. This experience really changed the trajectory of my research career.

EN: What kinds of questions come up when you're working with transplant donors and recipients?

Shah: A big one is whether it's safe to clear a living kidney donor who has prediabetes. We don't have much long-term data, which makes it a very difficult decision for both clinicians and patients. That question inspired one of my research projects — a study using the TriNetX global database to look at long-term risks of diabetes, chronic kidney disease, and cardiovascular disease in more than 5,000 living donors with prediabetes. Along with a research statistician and medical master's student, we performed this analysis and found some exciting results (stay tuned)!

EN: You also manage post-transplant diabetes. What have you learned from your patients?

Shah: Managing diabetes after transplant is incredibly nuanced. These patients have just gone through major surgery, are on high doses of steroids and immunosuppression, and are trying to rebuild their strength. I co-run a shared clinic with our diabetes educator, Diane Snyder, where patients talk about their experiences in a very open way. It's inspiring — patients with long-standing diabetes share their struggles and often their regrets too; they help motivate those who are newly diagnosed after transplant.

EN: Congratulations on receiving research funding for your work in transplant diabetes! Can you tell us more about this project and why it matters?

Shah (left) is pictured with her brother and her father (far right) at her father's diabetes clinic in Mumbai.



“ Endocrine Society conferences and committees have been central to my life in endocrinology. **I would like to use this opportunity to inspire early-career members to explore this exciting field of endocrinology and offer my guidance, mentorship, and collaboration to anyone who is interested in connecting!**”

— MANASI SHAH, MD, ASSISTANT PROFESSOR OF MEDICINE,
EASTERN VIRGINIA MEDICAL SCHOOL, NORFOLK, VA.



Shah: Thank you! This institutional career development grant is incredibly meaningful to me. It supports my research studies in patients with post-transplant diabetes under the mentorship of Dr. Salvatore Carbone and others. This grant allows me to systematically study kidney transplant recipients in the early post-transplant period, combining clinical outcomes with metabolic assessments.

Receiving this funding means I have protected time and money to follow patients closely, learn new research skills, collect objective data, and collaborate with my multidisciplinary team — including nutritionists, transplant surgeons, nephrologists, diabetes educators, and basic scientists — to generate evidence that can directly guide patient care. For me, this is the perfect blend of bench-to-bedside science: translating what I observe in clinic into studies that could shape future guidelines and improve long-term transplant outcomes.

EN: What's next for you and for transplant endocrinology?

Shah: I believe we're entering an era where endocrinologists will play a larger role in transplant medicine — not only in diabetes management but also in obesity treatment, bone health, and metabolic optimization pre- and post-transplant. We need more evidence to guide diabetes and metabolic care around transplant, and endocrine researchers are perfectly positioned to lead this effort. Recently, I joined American Society of Transplantation (AST) task forces and received enthusiastic responses from transplant colleagues around the world; they were thrilled to have an endocrinologist on board!

Of course, Endocrine Society conferences and committees have been central to my life in endocrinology. I would like to use this opportunity to inspire early-career members to explore this exciting field of endocrinology and offer my guidance, mentorship, and collaboration to anyone who is interested in connecting! **EN**

— LAM IS A DIVISION CHIEF AND MEDICAL DIRECTOR AT MERITUS ENDOCRINOLOGY,
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**TyShawn Harris
discusses
the intriguing
link between
endocrinology and
dentistry.**

BY GLENDA FAUNTLEROY SHAW

CONSEQUENCES

Early-career Endocrine Society member and dental student TyShawn Harris became fascinated with endocrinology after working with Stanley Andrisse, PhD, MBA, in his laboratory at Howard University. He talks to *Endocrine News* about his ongoing research and the remarkable connection among endocrinology, diabetes, and dentistry.



When TyShawn Harris began dental school at Howard University, he never expected his studies to intersect with endocrinology. But a course with a well-known researcher sparked new ideas and opened doors that have reshaped his journey.

Harris grew up in Queens, N.Y., and went on to earn a bachelor's degree in sociology from Queens College. After completing a post-baccalaureate program at the University of North Carolina at Greensboro, where he was first introduced to dentistry, he set his sights on dental school. At Howard University College of Dentistry, a first-year class taught by Stanley Andrisse, PhD, MBA, an endocrine scientist and professor at Howard's College of Medicine, sparked a new interest that would eventually take him to **ENDO 2025**.

Endocrine News spoke with Harris to learn more about how he first connected his dentistry studies to endocrinology and where his goals will lead him next.

***Endocrine News:* How did you first become involved with Dr. Andrisse's lab team?**

TyShawn Harris: As a first-year dentist student at Howard, you must take physiology to learn about the

physiology of the human body. Dr. Andrisse was our endocrinology course professor, so for that block he taught us all about hormones, and I didn't know there was much of a relationship between endocrinology and dentistry. Also, he was one of the first Black professors I'd ever had, so that was great. Then I later learned that he and I had similar pasts. I know people know Dr. Andrisse got into trouble when he was young, and so did I. I became intrigued with his program, *From Prison Cells to PhD*, which helps formerly incarcerated individuals gain an education. I was one of those who was once incarcerated but was able to break out of the legal system. And now I'm going to be a doctor in 1½ years. To give a little background, when I was 17 and a two-sport student athlete, I made a poor decision that led to legal consequences. As a result, I withdrew from school and returned home. The incident was covered by the news and spread on social media, which was very difficult and humbling. Although it was one of the hardest times of my life, it forced me to reflect deeply on who I was and who I wanted to become. With the help of my strong supporting cast, I was able to ultimately return to school and get back on the right track. That experience shaped me into a more mature, accountable, and resilient person, and I genuinely don't think I'd be who I am today without it.

“Diabetes and oral health are closely linked — when blood glucose is poorly controlled, it increases the risk of periodontal (gum) disease, delayed wound healing, dry mouth, and oral infections. For example, if a diabetic patient needs a tooth extraction, they might experience prolonged bleeding or slower recovery. Conversely, chronic periodontal inflammation can make it harder to control blood sugar levels, creating a cycle that worsens both conditions.”

— TYSHAWN HARRIS, FIRST YEAR DENTAL STUDENT,
HOWARD UNIVERSITY, WASHINGTON, D.C.

So, in Dr. Andrisse's course, I learned about the connection between dentistry and the endocrine system, especially diabetes, which is so common in minority communities. I knew then that I wanted to work with him, so I applied to work in his lab. He's become my mentor, and we have conducted research and collaborated on a few good ideas so far.

EN: Having a professor like Dr. Andrisse who, first, looks like you, and then learning that you both have succeeded beyond mistakes you made as youths must be so inspirational. What type of research did you do in his lab that connects dentistry to endocrinology?

Harris: Yes, having a professor like Dr. Andrisse has been incredibly inspiring. Learning about how he turned past challenges into motivation for success has pushed me to do the same. I actually had the opportunity to conduct research in his lab, and we recently presented our findings at ENDO 2025.

Our study focused on how high-fat and high-fructose diets contribute to insulin resistance and obesity, partly through the activation of a liver enzyme called protein kinase C epsilon (PKCε). We investigated how deleting PKCε specifically in the liver affects insulin signaling in mice fed a high-fructose diet. What we found was those mice lacking PKCε showed improved insulin sensitivity, meaning their bodies responded better to insulin. This suggests that targeting PKCε could be a potential therapeutic strategy for diabetes and other metabolic diseases.

The connection to dentistry is actually very direct. Diabetes and oral health are closely linked — when blood glucose is poorly controlled, it increases the risk of periodontal (gum) disease, delayed wound healing, dry mouth, and oral infections.



TyShawn Harris (second from left) in the midst of the ENDO 2025 crowds with (l to r): Stanley Andrisse, PhD, MBA; Julia Biantey; Ashley Jones; and Marian Guzman.

Stanley Andrisse, PhD, MBA, (left) and TyShawn Harris in the lab at Howard University, working to further our understanding of how oral health is linked to diabetes.

For example, if a diabetic patient needs a tooth extraction, they might experience prolonged bleeding or slower recovery. Conversely, chronic periodontal inflammation can make it harder to control blood sugar levels, creating a cycle that worsens both conditions.

So, the work we're doing in Dr. Andrisse's lab helps deepen the understanding of metabolic dysfunctions like insulin resistance, and that knowledge directly informs how we manage oral health in patients with diabetes.

EN: Do you think a lot of patients know this connection of how the endocrine system can affect their dental health?

Harris: Honestly, I don't think most patients — or even some healthcare professionals — fully understand how much the endocrine system affects oral health. When I was at ENDO, I came across a medication at a vendor booth that listed “increased risk of dental cavities” as a side effect. I asked the representative why that was, and even after making a few calls, no one could explain it. That really stood out to me and showed how often this connection is overlooked. It's an area that needs more awareness and education, both for patients and providers.

EN: What are your long-term plans after graduation?

Harris: Once I graduate, I plan to complete a residency — either a general practice residency or, if I decide to specialize, possibly in endodontics, since I've developed a strong interest in that area. I want to gain more hands-on experience and deepen my understanding before making that decision. After residency, I'd like to work in private practice to really learn the business side of dentistry — things like patient management, operations, and the day-to-day responsibilities of running a practice.

At the same time, I want to continue doing research that explores the connection between diabetes, endocrinology, and dentistry. My work in Dr. Andrisse's lab showed me how metabolic health and oral health are deeply intertwined, and I want to keep contributing to that growing body of knowledge.

Ultimately, my goal is to open my own dental practice in a low-income community. I want to provide high-quality care to individuals who might not otherwise have access to it and use my platform to help bridge the gap in oral health disparities. **EN**



Reaching Out



Digital Advocacy in Women's Hormonal Health

BY DEREK BAGLEY



Omodamola Aje, MD

Omodamola Aje, MD, has built a social media platform to provide women with the tools they need to ask their doctors informed questions and help guide decisions in their treatment, from menopause to hypothyroidism. Aje is using her platform to not only help build a sense of community, but to cut through the rampant misinformation surrounding metabolic health.

Omodamola Aje, MD, a clinical endocrinologist at Berkshire Medical Center in Pittsfield, Mass., had a patient starting menopause, suffering all the symptoms that it carries — hot flashes, night sweats, poor sleep. After careful evaluation, Aje put the patient on hormone replacement therapy after a full assessment, and not long after, she got a call from the patient's husband, who thanked Aje for “giving [his] wife back.”

That moment changed everything. “It reminded me that good medicine is not just science, it's humanity,” Aje says. Inspired, she began sharing bite-size, evidence-based videos on social media. Her posts, covering menopause, fertility, polycystic ovary syndrome (PCOS), diabetes, and hypothyroidism, have now reached women around the world, some garnering hundreds of thousands of views.

This kind of digital health advocacy is crucial here in 2025, when everyone is online, and especially for women, whose access to healthcare is not equal in many parts of the world, whether through geographical location, financial situations, or culture. “It's my way of bringing knowledge to people where they already are,” Aje says. “Women are already online, so giving them that knowledge there just makes it easier for everybody.”

Half-Baked Knowledge

The COVID-19 pandemic caused the healthcare industry to pivot to the digital world with the rise of telemedicine and electronic prescribing. The pandemic, of course, was never a good thing, but some good things did come out of it. Now, people who might not have had access to healthcare could have a virtual consultation with a doctor; they could have needed medications sent in. People could connect with others about their medical problems and feel a sense of community. “Lots of people who didn't have a voice started speaking,” Aje says.

The pandemic may have accelerated telemedicine, but it also unleashed a flood of misinformation. “Half-baked knowledge is worse than no knowledge at all,” Aje explains. “If you don't know, you can learn. But when you think you know and you're wrong, you spread confusion.”

Her platform challenges popular myths, such as claims that hormone therapy always causes breast cancer, or that diet alone can “cure” hypothyroidism. “I didn’t set out to become the voice for women,” she says, “but my page has become a space where women feel seen, heard, and not judged.”

Crossing Borders

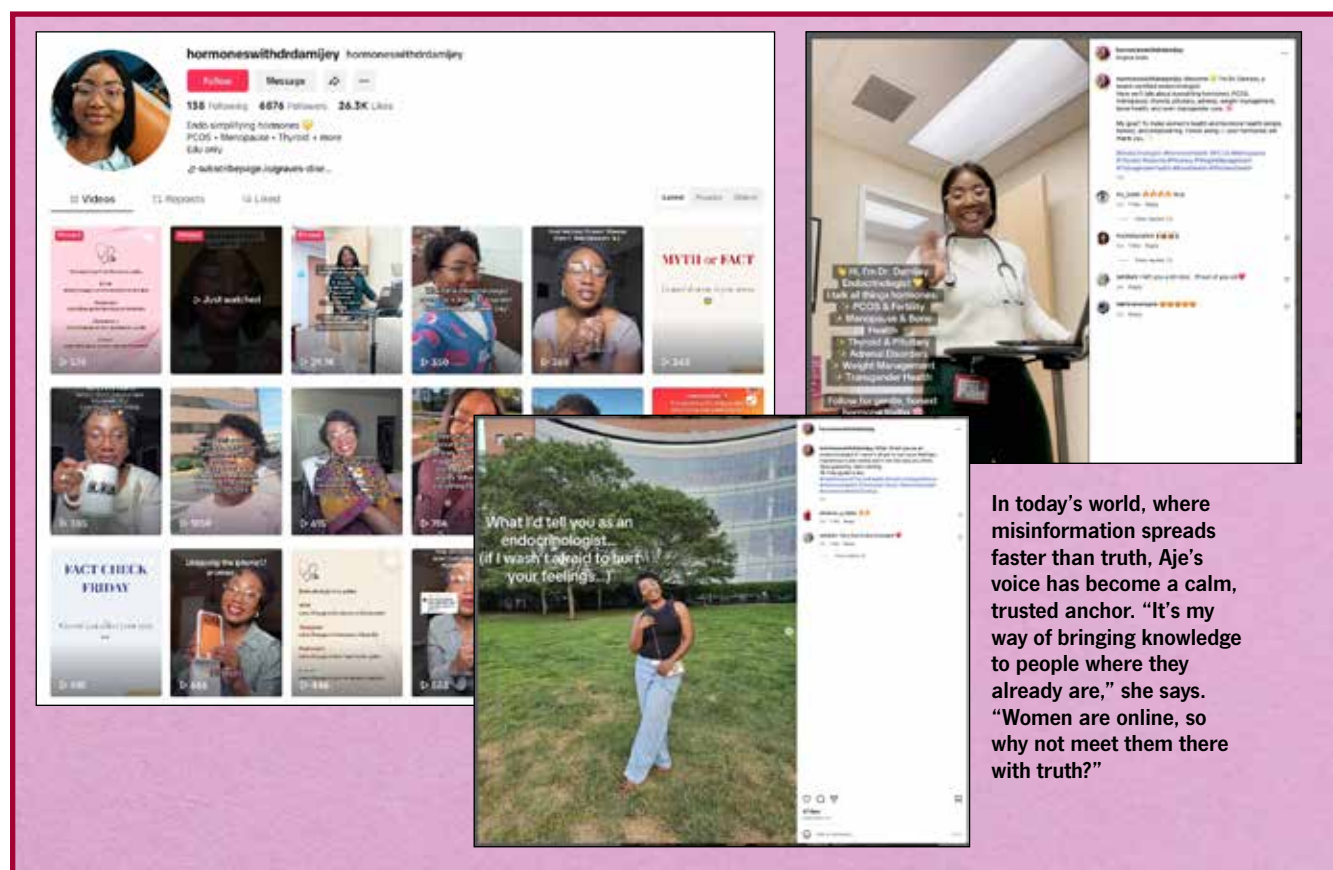
Aje tells *Endocrine News* that each month, she comes up with a topic in women’s health that she wants to discuss. She started with PCOS for the first month and created an evidence-based guide that women could sign up for to access. Soon, women were signing up from Korea, Guyana, Kenya. “Sitting in my bedroom, creating this guide, I can actually reach people across borders,” she says. “It’s not like we’re trying to replace the clinic. We’re just trying to break down the walls of these barriers to reach people.”

But Aje’s outreach can also come from something as simple as a short TikTok video. One of her most viral TikTok posts is of her explaining the difference between clomid and letrozole in 60 seconds, with the caption “Took Clomid, and it didn’t work?” Aje says that one of her patients even mentioned the video after realizing her OBGYN had put her on letrozole, and that now the patient understood why.

“It’s good to know that what I’m doing is helpful for people, and it’s actually feeding back to me,” Aje says. “It is good to know that what you’re doing is helpful. I get the comments all the time: ‘Thank you, finally somebody explained it the way that my doctor didn’t explain it to me,’ but to actually see a real-life patient tell me, that was very gratifying for me.”

Simplifying Things

Aje makes it clear that her platform is for educational purposes only, no diagnoses, no prescribing medications,



In today’s world, where misinformation spreads faster than truth, Aje’s voice has become a calm, trusted anchor. “It’s my way of bringing knowledge to people where they already are,” she says. “Women are online, so why not meet them there with truth?”

just a guide on what patients might want to ask their doctors about. A racing heart might be more than anxiety; sudden weight loss might mean something needs to be checked up. A video from a board-certified endocrinologist on Instagram or TikTok carries more weight than a Google search.

And Aje says building this platform has helped her in the clinic as well. She's learned how to simplify things, how to talk to patients in terms they can better understand. "Then for my patients in the community, in my online community too, they get to see things I've lived through, experiences that I've seen in my clinic," she says. "They're interconnected, my online platform and my clinical practice, but at the same time they're separate."

Science of Balance

For Aje, her educational platform is especially relevant for endocrinology, since it's a science of balance. Hormones affect every system, and if even one thing gets off balance, it can cause chaos. "I can't imagine myself doing anything else," she says. "It literally helps you to put things back into perspective, into balance."

As a fellow, Aje earned an Early-Career Award from the Endocrine Society and has been an active member ever since. She's taken her passion for endocrinology and now wants to convey that not just to her patients, but to others who are interested in endocrinology. "If it's something that you have a passion about, don't let the fear of what people are going to say, judgment, or even critics or backlash, stop you," she says.

Aje stresses the importance of separating out the educational material in social media posts from visits in the clinic. Providing good medical education, especially now when misinformation can spread so quickly (the Endocrine Society had to host a webinar about the falsehoods of "hormone balancing"), is key to helping patients understand what they're actually dealing with. "You'd be surprised at the amount of people that have never even heard half of the things that you want to say," Aje says. "For upcoming residents, there's just so much to be done. There's so much to be uncovered. We want your voice. We want you to speak. Lots of people want to hear what you have to say." 

“

You'd be surprised at the amount of people that have never even heard half of the things that you want to say. For upcoming residents, there's just so much to be done. There's so much to be uncovered. **We want your voice. We want you to speak. Lots of people want to hear what you have to say."**

— OMODAMOLA AJE, MD, CLINICAL ENDOCRINOLOGIST,
BERKSHIRE MEDICAL CENTER, PITTSFIELD, MASS.

Changing The Game

Eversense 365 represents a breakthrough in diabetes technology as the first and only continuous glucose monitoring (CGM) system to provide a full year of uninterrupted glucose data.

BY COURTNEY CARSON



For decades, CGMs have steadily improved diabetes management by offering real-time insights. At the same time, they have also carried limitations that can disrupt both patients' daily lives and providers' ability to deliver seamless care. Eversense 365 introduces a fundamentally different approach, combining an implantable sensor with a removable smart transmitter to reduce device burden, enhance accuracy, and extend the lifespan of glucose monitoring.

For many patients, traditional CGMs are invaluable but imperfect tools. Frequent sensor replacements every 10 to 15 days, adhesives that irritate the skin, devices that peel off too early, and the anxiety of false alarms can create unnecessary interruptions in daily life and undermine consistent glucose management. These interruptions not only affect quality of life but also compromise adherence and long-term glucose control.

Eversense 365 offers options to avoid these complications. A small sensor, inserted just beneath the skin, communicates with a lightweight transmitter that sits on the surface. Unlike traditional devices, the transmitter can be removed when necessary and reapplied without wasting the underlying sensor, allowing patients greater flexibility while reducing the anxiety associated with the potential loss of the device. By virtually eliminating compression lows and reducing disruptive alarms, Eversense 365 provides 12 months of glucose monitoring with a single sensor.

And it's not just patients who are seeing the difference — clinicians benefit from the innovation, as well. With a focus on accuracy and consistency, Eversense 365 enables providers to spend less time troubleshooting device issues and more time concentrating on meaningful interventions. The confidence that comes with reliable data leads to better clinical decisions, while the reduced device burden makes it easier for patients to stay consistent and engaged in their care.

Currently, Eversense 365 is available in the United States for adults 18 and older, and an application for CE Mark approval is already under review in Europe. And the innovation doesn't stop there. Through a partnership with Sequel Med Tech, the first automated insulin delivery system powered by a one-year CGM is on the horizon, with an expected launch in 2026.

www.eversensecgm.com

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— CARSON IS A FREELANCE WRITER BASED IN BIRMINGHAM, ALA. SHE FREQUENTLY COVERS NEW TECHNOLOGY FOR *ENDOCRINE NEWS*.



Prescription Drug Pricing Update: Society Continues Advocacy to Lower Prices and Out-of-Pocket Costs

On September 30, the Trump administration announced the creation of “TrumpRx,” a consumer website where Americans can buy medications at a discounted price. The president also announced deals with two major drug manufacturers, Pfizer and AstraZeneca, to reduce the prices of many of their products. The president left the door open to possible deals with other drug makers in the future.

Meanwhile, one of the nation’s largest retail wholesalers took steps last month to make GLP-1 medications more affordable for people without insurance. Costco announced that it would begin selling Ozempic and Wegovy at a discounted price of \$499 for a four-week supply. This reduced price will only be available for people without insurance. There continues to be major barriers to accessing GLP-1 medications. Medicare is prohibited from covering these medications for weight loss and because of this restriction many private insurers also do not cover them.

Lowering the price of prescription drugs continues to be a major priority for the Endocrine Society, and we will continue to closely monitor these developments in the coming weeks. We will also continue to advocate for Congress to lower the prices and out-of-pocket costs of prescription drugs. The Society has been a leader in advocating for insulin affordability and has urged Congress to expand the \$35 monthly copayment cap on insulin, currently available for Medicare beneficiaries, to the commercial insurance market.

The Society has also advocated for expanding access to anti-obesity medications (AOM). We support the Treat and Reduce Obesity Act (TROA) that would allow Medicare to cover AOMs for weight loss. The TROA was recently re-introduced in Congress, and we have been urging lawmakers to co-sponsor this important legislation. We encourage Endocrine Society members to take action on our TROA campaign by contacting your members of Congress urging them to co-sponsor the TROA. Please visit endocrine.org/takeaction to join our campaign.

Federal Government Shutdown Disrupts Research and Clinical Care

On March 14, Congress passed a stopgap spending bill to fund the government through September 30, 2025.

On October 1, funding for the federal government expired because Congress failed to pass a continuing resolution (CR) to fund the federal government. As this issue of *Endocrine News* goes to press, the shutdown impasse continued, and it appeared the shutdown could run into November. The lapse in funding is affecting Endocrine Society researcher and clinician members. Below is information that will be helpful to you during the shutdown:

Taking Action to Resolve the Government Shutdown

We urge you to join our new online advocacy campaign to tell your senators and representative to pass a full-year funding bill that reopens the government and to support funding the National Institutes of Health (NIH) at least at the Senate Appropriations Committee's bill level of \$47.8 billion for FY 26. Please visit: www.endocrine.org/advocacy/take-action.

What Researchers Need to Know

As a result of the current shutdown of the federal government, operations at the NIH have shifted to maintain essential services at its biomedical research hospital, the NIH Clinical Center. The Department of Health and Human Services (HHS) released a contingency plan that details which NIH activities will not resume during the shutdown. These activities include:

- ▶ All NIH grant peer-review meetings, advisory council meetings, issuance of new awards, and program/grants management activities.
- ▶ The admission of new patients to the NIH Clinical Center (unless deemed medically necessary by the NIH Clinical Center director).

▶ Training of graduate students and postdoctoral fellows at NIH facilities.

▶ Travel of NIH scientists to scientific meetings.

NIH staff, whose responsibilities are deemed necessary for patient care and the protection of property, will continue to work without pay.

What Clinicians Need to Know

Medicare and Medicaid Programs: According to the Centers for Medicare and Medicaid Services (CMS) contingency plan, during a lapse in funding, the Medicare program will continue. CMS has sufficient funding for Medicaid to fund the first quarter of FY 2026, based on the advanced appropriation provided for in the Full-Year Continuing Appropriations and Extensions Act of 2025. CMS is maintaining the staff necessary to make payments to eligible states for the Children's Health Insurance Program (CHIP). CMS is also continuing federal Marketplace activities, such as eligibility verification, using federal Marketplace user fee carryover. Other non-discretionary activities



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including Health Care Fraud and Abuse Control (HCFA) and Center for Medicare and Medicaid Innovation (CMMI) activities are also continuing.

Telehealth Services: Physicians who provide telehealth services to Medicare patients should be aware that the Medicare telehealth flexibility has lapsed for care to all patients except those being treated for mental health or substance use disorders. This means that telehealth services are limited to rural areas as they were before the COVID-19 public health emergency and that patients cannot receive telehealth services in their homes. Note, however, physicians in certain Medicare Shared Savings Program accountable care organizations (ACOs) can continue to provide and be paid for telehealth services. In addition, the ability to provide audio-only services to Medicare patients lapsed, as did the Acute Hospital Care at Home program.

Special Diabetes Program and Other Health Extenders: Funding for the Special Diabetes Program and other health extender programs has lapsed. Other programs include the community health centers, the National Health Service Corps, and teaching health centers that operate graduate medical education (GME) programs. It also includes public health emergency authorities (e.g., Public Health Emergency Fund); increased inpatient hospital payment adjustment for certain low-volume hospitals; Medicare-Dependent Hospital (MDH) program; quality measure endorsement, input, and selection; and outreach and assistance for low-income programs (e.g., area agencies on aging).

Medicare Claims: In anticipation of possible congressional action, CMS has instructed all Medicare administrative contractors (MACs) to continue to temporarily hold claims with dates of service of October 1, 2025, and later for services impacted by the expired Medicare legislative payment provisions. This includes all claims paid under the Medicare Physician Fee Schedule, ground ambulance transport claims, and all federally qualified health center claims. Providers may continue to submit these claims, but payment will not be released until the hold is lifted. For the latest information, physicians should monitor their MAC's website and this CMS webpage: www.cms.gov/medicare/payment/fee-for-service-providers. 

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