

APRIL 2022

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

# Endocrine news

## Georgia *on YOUR mind*

All Endocrine Pathways  
Lead to Atlanta for  
ENDO2022

As the Endocrine Society prepares to welcome the endocrinology community from around the world to Atlanta for ENDO 2022, we highlight some of our host city's local flair.

- **VIRTUAL REALITY:** Tips to make the most of your online ENDO 2022 experience.
- **FACE TO FACE:** ENDO 2022 debuts new experiences to bring attendees together.
- **ON THE TOWN:** Don't miss out on these local treats waiting for you in Atlanta in June!

Skyline and reflections of  
midtown Atlanta at sunset  
in Piedmont Park.  
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### ISLETS IN THE STREAM:

Stem cell technology and the future of diabetes

### BOOK SMARTS:

Q&A with Nadia Barghouthi, MD, MPH, and Jessica Perini, MD, MS

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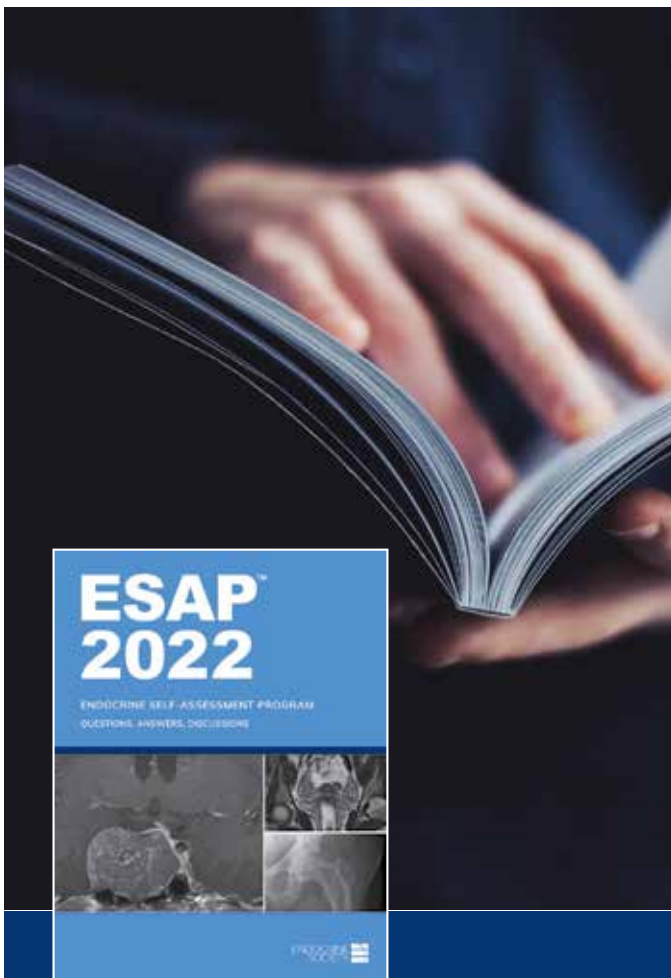
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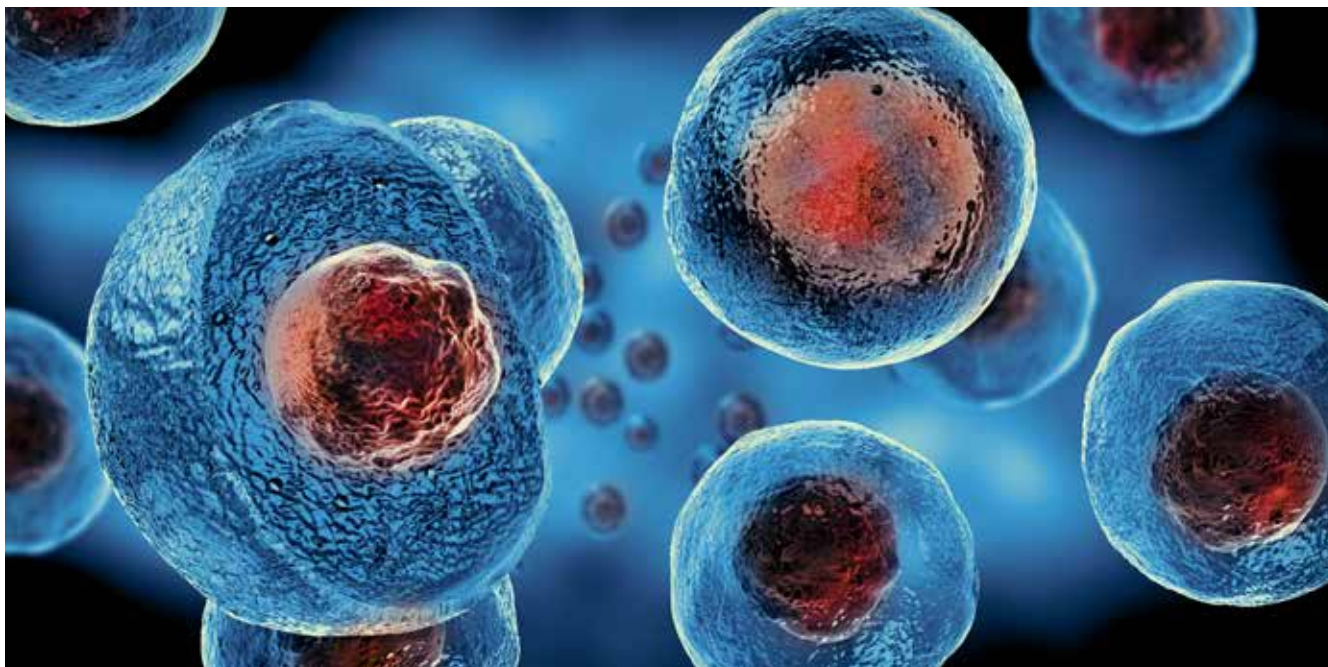
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### Could Stem-Cell Derived Therapies Be an Eventual Cure for Type 1 Diabetes?

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As the Endocrine Society prepares to welcome the endocrinology community from around the world to Atlanta for **ENDO 2022**, *Endocrine News* is highlighting some of our host city's local flair as well as a few components of the conference itself. Since this year's annual meeting can be attended either in person or virtually, we look forward to seeing you one way or another this June!

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**BY CHERYL ALKON**

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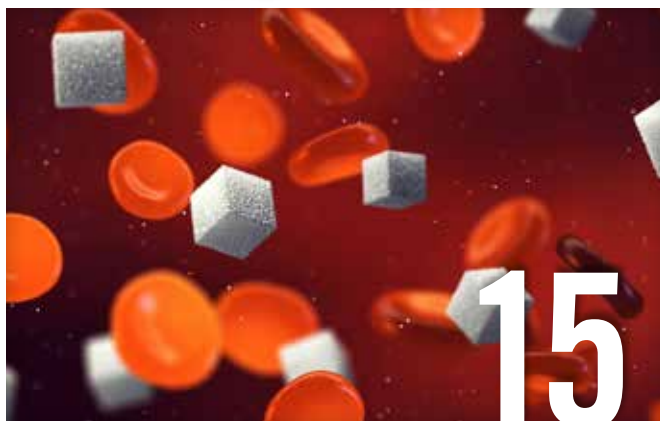
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## Introducing *JCEM Case Reports* and its Inaugural Editor-in-Chief

**T**he publication of peer-reviewed journals is an integral part of the Endocrine Society's mission to unite, lead, and grow the global community of researchers, educators, and practitioners in endocrinology. This is an

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**The publication of peer-reviewed journals is an integral part of the Endocrine Society's mission to unite, lead, and grow the global community of researchers, educators, and practitioners in endocrinology. This is an endeavor that can only be accomplished when that same community — our community — vigorously participates in the Society's journals as authors, editors, reviewers, and readers.**

”

endeavor that can only be accomplished when that same community — our community — vigorously participates in the Society's journals as authors, editors, reviewers, and readers.

I am pleased to highlight here just one of the initiatives currently underway with our publishing program, the launching of a new Society-owned journal, focused on case reports, interest in which we have been seeing in member surveys for many years.

*JCEM Case Reports* (JCEMCR) will be peer-reviewed, online-only, open access, and will join the Society's journals portfolio with Oxford University Press. JCEMCR will have editorial independence while at the same time advancing a coordinated strategy with the Society's other journals to benefit the Society's broader mission. The journal will begin accepting submissions in summer 2022; the first issue will publish in late 2022.

To lead JCEMCR as its inaugural editor-in-chief, the Society has appointed William F. Young, Jr., MD, Tyson Family Endocrinology Clinical Professor and professor of medicine in the Mayo Clinic College of Medicine at the Mayo Clinic in Rochester, Minn.

As Dr. Young notes, case reports can impart valuable insights and clinical nuances that cannot be found in large case series, clinical trials, or clinical practice guidelines. Many of the best teaching and learning opportunities are based on the care of single patients with challenging clinical scenarios. The goal is nothing less than to have JCEMCR become the number one choice of endocrinologists to read and also their preferred forum to share their clinical experiences.

With immediate free online availability to readers, JCEMCR will publish reports on clinical cases and clinical problem solving from across the worldwide field of endocrinology. The editors will welcome educational or rare clinical cases and will be particularly interested in cases in which learning relating to limited resources for investigation or management choices may have important implications for a wider audience. The journal's senior editors will offer guidance to early-career authors, reviewers, and editors — and its educational and professional development aspects will complement the Society's other programs in those areas.


There will be discounts on author fees for Society members and deep discounts for Early Career and In-Training members.



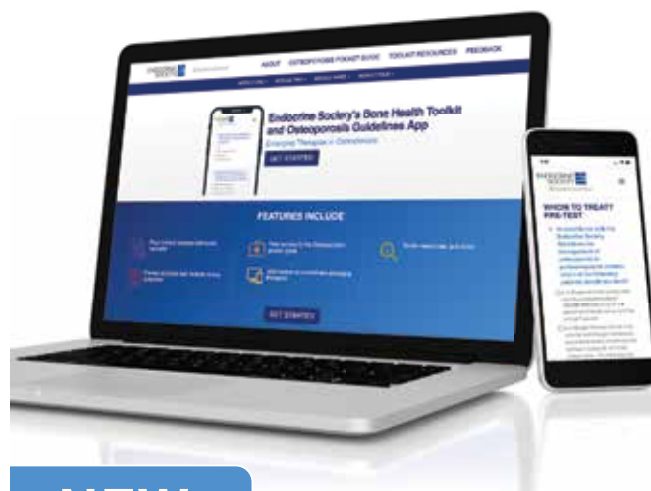
Article recruitment strategies will include:

- ▶ When JCEMCR opens for submissions, case reports submitted to *Journal of the Endocrine Society* (JES), which has published case reports in the past, will be re-directed to JCEMCR.
- ▶ Poster presenters at **ENDO** conferences will be encouraged to work up their posters into manuscripts to submit to JCEMCR.
- ▶ JCEMCR's editorial team, recruited from key areas of endocrinology clinical specialties, will each have their own circle of influence and will encourage submissions from junior colleagues and trainees.
- ▶ Master clinicians will be recruited to write commentaries based on two to three case reports of variations on the same clinical theme, providing context and guidance on how the case reports inform the clinician on unique aspects of the clinical presentation, diagnosis, and treatment.
- ▶ An Images in Endocrinology format will be introduced, for the presentation of classic or unique images that capture what the clinician sees in the exam room or on their computed imaging system.
- ▶ The top six or so case reports from JCEMCR could be featured for short oral presentations at **ENDO**. For each presentation, a master clinician would be invited to provide a brief commentary.

These and many other activities are illustrative of the educational and professional development benefits that we are planning for *JCEM Case Reports*, with and for our members.

We hope that you will consider submission of your challenging cases to *JCEM Case Reports*. Should you have any questions/comments, please contact our chief publications officer, Richard O'Grady, at [rogrady@endocrine.org](mailto:rogrady@endocrine.org). 

Carol H. Wysham, MD  
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FROM THE **EDITOR**

## On the Road to Atlanta for ENDO 2022

**W**hen I first read this month's cover story by Courtney Carson ("Georgia on My Mind," p. 32), I felt a unique sensation: excitement. As I read through her (usually annual) travelogue about what **ENDO 2022** attendees can expect when they land in Atlanta, my anticipation for the Endocrine Society's first in-person annual conference since New Orleans in 2019 was palatable. It made me realize how much I truly missed seeing you all in person whether in the meetings, at the special events and ceremonies, on the floor of the **ENDO Expo**, or simply passing in the hallways and waving through the throngs of fellow attendees.

Aside from highlights of what Atlanta has to offer while you're in town, the article also features a piece by Colleen Williams that discusses some of the new offerings debuting at **ENDO 2022** that will only further enhance your conference experience:

- ▶ **Digital Poster Pods:** These new displays will allow attendees to "browse" posters at their leisure in the **ENDO Expo**. You can search for topics that interest you the most at any time rather than browse the traditional poster displays at given times;
- ▶ **Basic Science Pavilion:** This "meeting within a meeting" will no doubt be a favorite of all basic science attendees. Aside from a variety of sessions on basic science topics, there will also be a social lounge where you can discuss your research with other experts in the field from around the world; and
- ▶ **All-Attendee Social:** And what would our first in-person meeting be without the chance to celebrate together? On Sunday, June 12, from 5 p.m. to 6:30 p.m., be sure to meet in the **ENDO Expo** for this happy hour-style gathering where all attendees and exhibitors can meet face-to-face after years of virtual meetings.

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*Endocrine News* informs and engages the global endocrine community by delivering timely, accurate, and trusted content covering the practice, research, and profession of endocrinology.



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Also new for **ENDO 2022** will be the Communications & Career Center, a hub for event news and professional growth, and an invite-only reception for members of our Special Interest Groups. All these experiences (minus the receptions) will have a virtual component if you're not making the trip to Georgia.

If you're not planning to attend **ENDO 2022** in person, be sure to check out "Virtual Reality: Making the Most of Your Online **ENDO 2022** Attendance" by Cheryl Alkon on page 42. Since this will be the first time that the Endocrine Society is conducting a hybrid conference, *Endocrine News* wanted to provide those virtual attendees with some tips on how to make the most of their online conference experience. So whether you're in Atlanta in person or in spirit, **ENDO 2022** promises to be a robust conference full of exciting opportunities to learn.

On page 22, senior editor Derek Bagley writes about new research in "Islets in the Steam," that takes a closer look at the role stem cell-derived therapies could possibly play in an eventual cure for diabetes. "The scientists working on stem cell-derived islets for the therapy of type 1 diabetes have made tremendous progress and deserve our congratulations," says Daniel J. Drucker, PhD, professor of medicine, Lunenfeld-Tanenbaum Research Institute, Mount Sinai Hospital, Toronto, Canada. "As one looks to the future, we await further advances in ongoing research pursuing strategies to avoid immune rejection (cell engineering, encapsulation, immunosuppression) while maintaining healthy oxygenated highly functioning islets."

As always, stay tuned to *Endocrine News* online (<https://endocrinenews.endocrine.org/>) and be sure to follow us on Twitter ([https://twitter.com/Endocrine\\_News](https://twitter.com/Endocrine_News)) for updates and late-breaking news regarding **ENDO 2022**, the Endocrine Society, as well as news about our members and the latest developments in the science and practice of endocrinology. 

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

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## Endocrine Society Calls on Congress to Address High Insulin Prices and Consumer Out-of- Pocket Costs

*President Biden cites need for affordable  
diabetes care in State of the Union.*

**T**he Endocrine Society praised President Joe Biden for affirming his commitment to improving insulin affordability during the State of the Union address on March 1.

We cannot lose sight of this ongoing crisis, which continues to impact millions of Americans living with diabetes. The administration must work with Congress to find a meaningful solution. The Society urges Congress to pass legislation on a bipartisan basis to make insulin more affordable for those who rely on it.

The millions of people living with diabetes for whom insulin is a lifesaving medication cannot wait. Insulin has nearly tripled in price over the past 15 years, making it unaffordable for many.

More than 37 million people nationwide — 11.3% of the total population — have diabetes. Recent data found that 3.1 million adults started using insulin within a year of being diagnosed with diabetes. While other medications offer options for individuals with type 2 diabetes, those with type 1 diabetes must take insulin daily for the rest of their lives.

Our position statement recommends an array of different policy options, many of which Congress should pass today, to lower the price and consumer out-of-pocket costs of insulin.

Members of Congress from both political parties have acknowledged access to affordable insulin is a problem. Rising costs have increased health disparities in the country and have particularly jeopardized the health of minorities, low-income individuals, people on high-deductible health plans, Medicare beneficiaries, and those who must transition from their parents' insurance after turning 26.

Numerous bipartisan investigations and hearings have concluded that insulin is unaffordable for many people living with diabetes. Despite this acknowledgement, legislation has stalled in the Senate, and both chambers still must agree on policy to advance to the president.

We commend the bipartisan work that has been done by the House Energy & Commerce Committee, the Senate Finance Committee, the Congressional Diabetes Caucus, and many other committees and caucuses to shed light on this issue.

We urge Congress to come together and pass legislation to make insulin affordable as soon as possible. This legislation must address the drivers of rising insulin prices and implement solutions that will lower the out-of-pocket costs for patients.



Photo: Luca Perra/Shutterstock.com

# Endocrine Society Streamlines Name Change Policy for Journal Authors

*Policy supports needs of transgender and nonbinary researchers.*

**T**he Endocrine Society has introduced a policy to make it simpler for authors of articles published in its peer-reviewed journals to update their names following a name change.

The policy is designed to support authors who are transgender or nonbinary, as well as those who change their names due to marriage, divorce, religious conversion, or other reasons.



“Researchers rely on published manuscripts to advance their careers and gain recognition for their work,” says the Society’s chief publications officer Richard O’Grady, PhD. “We want to work with authors to ensure that colleagues, prospective employers, grant funders, and other interested parties can readily locate and credit their work following a name change.”

Under the new process, manuscript authors will be able to request a name change without it being publicly announced through a correction notice.

The Society’s journal publishing partner, Oxford University Press (OUP), will work directly with authors to update the digital article, associated metadata, and any author bio and disclosure statements. The updated information will be supplied to journal indexing and discovery services, which may have their own policies regarding such changes. Authors’ privacy will be respected throughout the process.

“As a leading organization advocating for access to gender-affirming care, the updated policy aligns with the Society’s values and commitment to diversity, equity, and inclusion,” O’Grady says. “Our new policy will give scientists more control over their body of work.”

The Society publishes four leading peer-reviewed journals: *The Journal of Clinical Endocrinology & Metabolism*, *Endocrinology*, *Endocrine Reviews*, and the *Journal of the Endocrine Society*. The Society plans to launch a new journal, *JCEM Case Reports*, later this year.

To update past articles, authors should contact [jnls.author.support@oup.com](mailto:jnls.author.support@oup.com).

More information is available at: [https://academic.oup.com/journals/pages/authors/production\\_and\\_publication/changing-published-articles](https://academic.oup.com/journals/pages/authors/production_and_publication/changing-published-articles).

## Society Members Honored by the ADA

Several Endocrine Society members have been honored by the American Diabetes Association (ADA) as recipients of 2022 National Scientific and Health Care Achievement Awards.

The awards honor academics, healthcare providers, and educators who have contributed to substantial advances in the field of diabetes care and research.

“These extraordinary individuals receiving the ADA’s National Scientific and Health Care Achievement Awards have made significant contributions to diabetes research, prevention, and treatment,” according to Endocrine Society member Robert A. Gabbay, the ADA’s chief scientific and medical officer. “While our awardees come from a variety of educational backgrounds and institutions, they have one very important thing in common: their drive to help us move the needle and create lasting change in the lives of millions. With 537 million adults living with diabetes worldwide and more than 133 million Americans living with diabetes and prediabetes, it is crucial that passionate professionals continue to dedicate their careers to ending this epidemic.”

The following award recipients will be among those recognized at an awards ceremony to take place at the ADA’s 82nd Scientific Sessions June 3 – 7, 2022, in New Orleans, La.:

**Anna Gloyn, PhD**, professor of pediatrics, endocrinology, and diabetes at Stanford University, is the recipient of the 2022 Outstanding Scientific Achievement Award, which recognizes research in diabetes that demonstrates particular independence of thought and originality. Gloyn is a leader in efforts to discover the genetic basis of type 2 diabetes. She uses human genetics as a tool to understand cellular and molecular mechanisms for pancreatic beta cell failure in diabetes and related conditions. Her efforts seek to improve understanding of pancreatic islet cell dysfunction to advance treatment options for patients.

**Hertzel C. Gerstein, MD, MSc, FRCPC**, professor of medicine at McMaster University, Hamilton, Ontario, Canada, is the recipient of the 2022 Outstanding Achievement in Clinical

Diabetes Research Award, which recognizes exceptional contributions in patient-oriented clinical outcomes research that have had a significant impact on diabetes prevention and treatment. Gerstein co-led the first cardiovascular trial with a large diabetes cohort (MICROHOPE). His discoveries related to ACE-inhibitors, thiazolidinediones, and insulin have been transformative in understanding diabetes and cardiovascular outcomes.

**Janet B. McGill, MD, MA, FACP**, professor of medicine, John T. Milliken Department of Internal Medicine, Division of Endocrinology, Metabolism, and Lipid Research at Washington University School of Medicine, St. Louis, Mo., is the recipient of the 2022 Outstanding Physician Clinician in Diabetes Award, which is presented to an individual to reward and honor meritorious contributions to diabetes clinical practice. McGill has been an active clinical researcher in diabetes for over 30 years and continues to test new therapies for diabetes and novel approaches to type 1 and type 2 diabetes. Currently, McGill is the principal investigator (PI) or sub-investigator on more than 10 clinical trials investigating new treatments for diabetes and its complications.

**Jane E.B. Reusch, MD**, a professor of medicine and biochemistry at the University of Colorado, Denver and Denver VAMC, and associate director of the Center for Women’s Health Research in Denver, Colo., is the recipient of the 2022 Albert Renold Award, which is presented to an individual whose career is distinguished by outstanding achievements in the training and mentorship of diabetes research scientists and in the development of communities of scientists to enhance diabetes research. Reusch has dedicated herself to training the next generation of physician scientists and to the strengthening the clinical-translational workforce. At the core of her world-class translational diabetes research program is the mission to recruit, train, and retain new translational scientists to the diabetes workforce. She has directly mentored more than 70 students, pre- and post-doctoral fellows, junior, and senior faculty. Reusch is also the Endocrine Society’s 2022 Outstanding Mentor Laureate Award recipient.





**Will Charlton, MD,  
MAS**

**E**ndocrine Society member Will Charlton, MD, MAS, has been appointed chief medical office at Spruce Biosciences, Inc., a late-stage biopharmaceutical company focused on developing and commercializing novel therapies for rare endocrine disorders with significant unmet medical need.

Charlton, a board-certified pediatric endocrinologist with over 15 years of clinical research experience in industry and academia, will lead the company's clinical development and global drug development strategy.

"We are pleased to welcome Will as our chief medical officer, and we look forward to his leadership and guidance as we continue to advance our pipeline of

treatments for patients with rare endocrine disorders," says Javier Szwarcberg, MD, MPH, Spruce Biosciences CEO and Endocrine Society member. "With his extensive background in late-stage, rare disease drug development, paired with his experience as a board-certified endocrinologist, we are confident that Will's expertise will be a strong asset to Spruce as we progress tildacerfont through clinical development for adults and children with classic congenital adrenal hyperplasia and women with polycystic ovary syndrome."

Charlton is a physician-scientist with nearly two decades of experience as a clinician and industry executive, building successful programs across clinical development, medical affairs, and drug safety. He joins Spruce from 89bio, Inc., where he served as vice president, clinical development. Prior to 89bio, he was senior medical director, clinical development at Ascendis Pharma. Prior to Ascendis, Charlton served as executive medical director, clinical development, Liver Therapeutic Area at Allergan. Prior to his career in industry, Charlton spent over a decade in clinical practice as a board-certified pediatric endocrinologist. He earned a medical degree from the University of Southern California and completed his pediatric residency at Children's Hospital Los Angeles and his fellowship in pediatric endocrinology at the University of California, San Francisco.

"It is a privilege to be joining Spruce at such an important time in the company's growth," Charlton says. "Throughout my career as an endocrinologist and scientist, I have seen first-hand the unmet medical need and challenges those patients with rare endocrine disorders face. With tildacerfont advancing through global clinical development for multiple endocrine disorders, including adult and pediatric classic congenital adrenal hyperplasia, Spruce is poised to improve the lives of people who have not benefited from a new treatment option in approximately 50 years. As we enter our next phase of growth, I look forward to guiding Spruce's progress in the clinic and delivering value to patients and stakeholders."

## **Will Charlton Named Chief Medical Officer at Spruce Biosciences, Inc.**

## Martin M. Matzuk, MD, PhD, Wins Top Award from Society for the Study of Reproduction



Martin M. Matzuk,  
MD, PhD

**E**ndocrine Society member Martin M. Matzuk, MD, PhD, has won the 2022 Carl G. Hartman Award, the highest award given by the Society for the Study of Reproduction (SSR), for his outstanding career of research and scholarly activities in the field of reproductive biology.


“What an absolute pleasure and honor it is for the SSR to be able to recognize these members for their outstanding

research, their service and leadership to our Society, and their commitment to the future of the discipline through dedicated mentoring. Their work serves as inspiration for all of us, and I extend my heartiest congratulations to all the 2022 SSR award winners,” says Troy L. Ott, PhD, president of the SSR.

Matzuk is director of the Center for Drug Discovery and is Stuart A. Wallace Chair and professor in the Department of

Pathology and Immunology at Baylor College of Medicine. He is a reproductive biologist and clinical pathologist who is known for his interrogation of TGF-beta superfamily, germ cell, and hormonal signaling pathways using functional genomics approaches. His lab focuses on the identification and functional analysis of genes and pathways involved in mammalian reproduction.

“As a young MD/PhD student delivering a lecture at the Endocrine Society in 1988, I would have never guessed that I would someday be receiving the Carl G. Hartman Award,” Matzuk tells *Endocrine News*. “I appreciate the help of all of my Endocrine Society friends, colleagues, and mentors, including my PhD advisor Dr. Irving Boime, my Baylor College of Medicine supporter Dr. Bert O’Malley, and my first post-doctoral fellow Dr. Rajendra Kumar. It has been my honor to be a member of the Endocrine Society.”

Matzuk received two of the Endocrine Society’s Laureate Awards, which are the top honors in the field of endocrinology — the Richard E. Weitzman Outstanding Early Career Investigator Award in 1996 and the Roy O. Greep Award for Outstanding Research in 2010. 

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BY DEREK BAGLEY  
Senior Editor

## Stem Cells Show Promise in Treating Late-Onset Hypogonadism

**D**irected differentiation of human induced pluripotent (hiPSCs) into Leydig-like cells may be a novel and promising treatment for late-onset hypogonadism (LOH), according to a study recently published in *Endocrinology*.

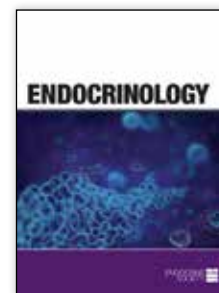
Researchers led by Takashi Aoi, MD, PhD, of Kobe University in Japan, point out that LOH is characterized by various symptoms, including erectile dysfunction, decreased muscle mass and bone density, depression, and an overall poor quality of life. The condition has been treated with testosterone replacement therapy (TRT), but that treatment has its limitations. Injectable testosterone needs to be replenished every two to four weeks, the authors write, whereas ointment form of testosterone requires fewer hospital visits but everyday application, and the issue of secondary exposure of the coating formulation has been noted. Oral administration requires dosing four times a day, and users must be alert for various adverse effects. “Furthermore, presently available TRTs do not restore the physiological fluctuation patterns of blood testosterone levels regulated by gonadotropin and gonadotropin-releasing hormone with feedback mechanisms,” they write. “Thus, novel therapeutic approaches as an alternative to TRT for LOH syndrome are required.”

Since testosterone is mainly secreted in the testes by Leydig cells, the researchers hypothesized that testosterone might be produced by artificially induced human Leydig cells, something the authors note that no one has demonstrated before. “In the present study, we established a simple and robust differentiation protocol into functional testosterone-producing Leydig-like cells from hiPSCs via doxycycline-inducible overexpressing

NR5A1 and showed not only marker gene expression but also the secretion of functional testosterone from the resultant cells,” they write.

For this study, the researchers used four iPSC clones: two male clones (3AB4, 73E1) and two female clones (201B7, 46C2-s4). They cultured the cells and added doxycycline and a differentiation medium to the cells and performed marker gene expression and hormone secretion evaluations on the differentiated cells on day 21. “We succeeded in differentiating human iPSCs into Leydig-like cells with a simple protocol by expressing NR5A1,” the authors write. “Since our experimental system regulates the expression of NR5A1 in a doxycycline-dependent manner, NR5A1-iPSCs can be maintained and expanded and cryopreserved in the absence of doxycycline, and differentiation can be started promptly at any time by adding doxycycline.”

The researchers found that the differentiated Leydig-like cells were able to continue to secrete testosterone for four weeks after the end of differentiation. But there are still some issues to be resolved: namely, immune rejection and tumorigenicity. The testis is an immune privileged site, so transplantation into the testis may overcome immune rejection, but there are still concerns about tumorigenesis. “Therefore, as is done for islet transplantation, encapsulating the iPSC-derived Leydig cells in a semipermeable device and then transplanting them into either the subcutaneous or peritoneal space may be a viable strategy for protecting cells from the recipient’s immune system and, moreover, for preventing invasion and metastasis in cases in which oncogenic transformation of the cells occurs,” the authors write.



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**New diagnosis of DM at the time of admission for COVID-19 represented 13.0% of all cases of DM admitted with COVID-19, was more common in younger individuals and less common in those of non-Hispanic White race/ethnicity and was associated with increased inflammatory markers and ICU admission, but not with death.**

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## Newly Diagnosed Diabetes in Patients with COVID-19 May Simply Be a Transitory Form of the Blood Sugar Disorder

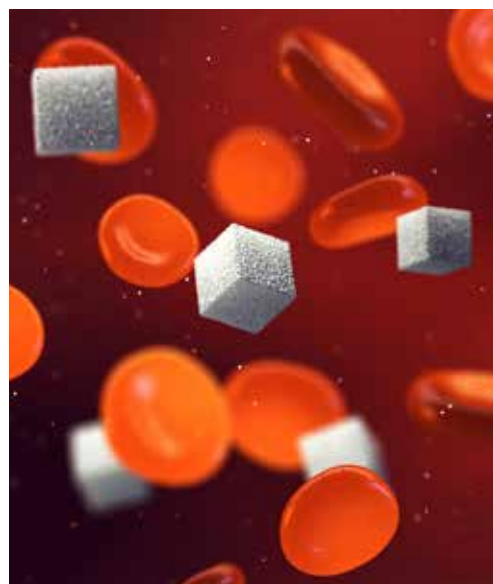
**M**any COVID-19 patients newly diagnosed with diabetes during hospital admission may actually have a temporary form of the disease related to the acute stress of the viral infection and may return to normal blood sugar levels soon after discharge, a study by Massachusetts General Hospital (MGH) has found. These patients are more likely to be younger, non-white, and on Medicaid or uninsured compared to individuals with previously diagnosed diabetes, suggesting many of these “new-onset” cases may simply be pre-existing but undiagnosed diabetes in individuals with limited access to healthcare services, according to the study published in *Journal of Diabetes and Its Complications*.

High rates of newly diagnosed diabetes mellitus (NDDM) have been reported in COVID-19 hospital admissions around the world. It is still unclear, however, if this phenomenon represents actual new diabetes or previously undiagnosed cases, what the cause of these elevated blood sugars may be, and whether patients’ blood sugars improve after resolution of COVID-19 infection. Pre-existing diabetes in people with COVID-19 has been associated with higher rates of hospitalization, intensive care unit (ICU) admission, mechanical ventilation, and death.

For this study, the MGH team looked at 594 individuals who exhibited signs of diabetes mellitus when admitted to MGH at the height of the pandemic in the spring of 2020. Of that group, 78 had no known diagnosis of diabetes prior to admission. Researchers learned that many of these newly diagnosed patients — versus those with pre-existing diabetes — had less severe blood sugar levels but more severe COVID-19. Follow-up with this cohort after

hospital discharge revealed that roughly half its members reverted to normal blood sugar levels and that only 8% required insulin after one year.

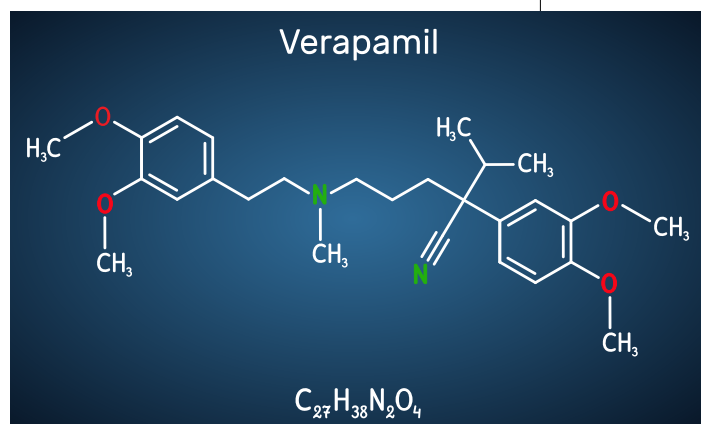
“New diagnosis of DM at the time of admission for COVID-19 represented 13.0% of all cases of DM admitted with COVID-19, was more common in younger individuals and less common in those of non-Hispanic White race/ethnicity and was associated with increased inflammatory markers and ICU admission, but not with death,” the researchers conclude. “Among those with follow-up data available, NDDM in the setting of COVID-19 generally had a mild glycemic course after discharge, marked by improvement in glycemia and even remission of diabetes in many instances, suggesting that stress-related insulin resistance, rather than direct beta cell injury, may be the primary driver of NDDM upon COVID-19 admission. Further studies are needed to confirm these findings and explore mechanisms driving acute hyperglycemia related to COVID-19.”



# Oral Medication Shows Benefits Treating Type 1 Diabetes for at Least Two Years after Diagnosis

Use of the drug verapamil to treat type 1 diabetes continues to show benefits lasting at least two years, according to a recent report in *Nature Communications*. Patients taking the oral blood pressure medication not only required less daily insulin two years after first diagnosis of the disease but also showed evidence of surprising immunomodulatory benefits.

Continuing medication was necessary. In the two-year study, subjects who stopped daily doses of verapamil at one year saw their disease at two years worsen at rates similar to those of the control group of diabetes patients who did not use verapamil at all.



The suggestion that verapamil might serve as a potential type 1 diabetes drug was the discovery of study leader Anath Shalev, MD, director of the Comprehensive Diabetes Center at the University of Alabama at Birmingham. This finding stemmed from more than two decades of her basic research into a gene in pancreatic islets called TXNIP. In 2014, Shalev's UAB research lab reported that verapamil completely reversed diabetes in animal models, and she announced plans to test the effects of the drug in a human clinical trial. The Food and Drug Administration

approved verapamil for the treatment of high blood pressure in 1981.

In 2018, Shalev and colleagues reported the benefits of verapamil in a one-year clinical study of type 1 diabetes patients, finding that regular oral administration of verapamil enabled patients to produce higher levels of their own insulin, thus limiting their need for injected insulin to regulate blood sugar levels. The current study extends on that finding and provides crucial mechanistic and clinical insights into the beneficial effects of verapamil in type 1 diabetes, using proteomics analysis and RNA sequencing.

To examine changes in circulating proteins in response to verapamil treatment, the researchers used liquid chromatography-tandem mass spectrometry of blood serum samples from subjects diagnosed with type 1 diabetes within three months of diagnosis and at one year of follow-up. Fifty-three proteins showed significantly altered relative abundance over time in response to verapamil. These included proteins known to be involved in immune modulation and autoimmunity of type 1 diabetes.

The top serum protein altered by verapamil treatment was chromogranin A (CHGA), which was downregulated with treatment. CHGA is localized in secretory granules, including those of pancreatic beta cells, suggesting that changed CHGA levels might reflect alterations in beta cell integrity. In contrast, the elevated levels of CHGA at type 1 diabetes onset did not change in control subjects who did not take verapamil.



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To assess changes in gene expression, RNA sequencing of human pancreatic islet samples exposed to glucose, with or without verapamil, was performed and revealed a large number of genes that were either upregulated or downregulated.

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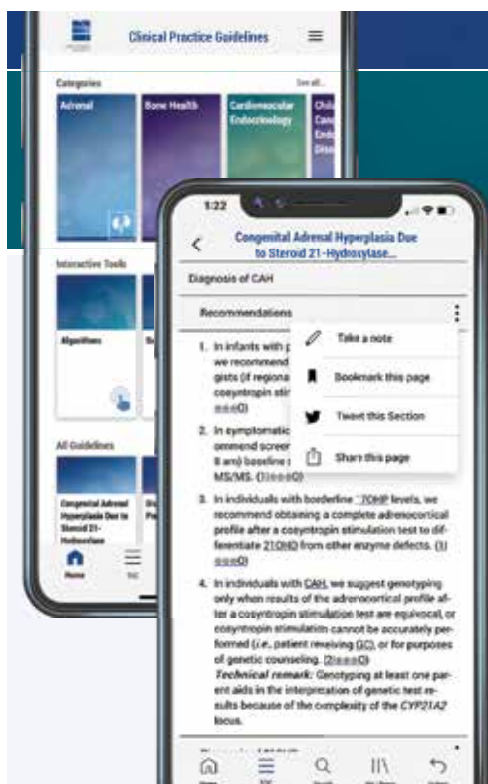
CHGA levels were also easily measured directly in serum using a simple ELISA assay after a blood draw, and lower levels in verapamil-treated subjects correlated with better endogenous insulin production as measured by mixed-meal-stimulated C-peptide, a standard test of type 1 diabetes progression. Also, serum CHGA levels in healthy, non-diabetic volunteers were about twofold lower compared to subjects with type 1 diabetes, and after one year of verapamil treatment, verapamil-treated type 1 diabetes subjects had similar CHGA levels compared with healthy individuals. In the second year, CHGA levels continued to drop in verapamil-treated subjects, but they rose in type 1 diabetes subjects who discontinued verapamil during year two.

Other labs have identified CHGA as an autoantigen in type 1 diabetes that provokes immune T cells involved in the autoimmune disease. Thus, Shalev and colleagues asked whether verapamil affected T cells. They found that several proinflammatory markers of T follicular helper cells, including CXCR5 and interleukin 21, were significantly elevated in monocytes from subjects with type 1 diabetes, as compared to healthy controls, and they found that these changes were reversed by verapamil treatment.

To assess changes in gene expression, RNA sequencing of human pancreatic islet samples exposed to glucose, with or without verapamil, was performed and revealed a large number of genes that were either upregulated

or downregulated. Analysis of these genes showed that verapamil regulates the thioredoxin system, including TXNIP, and promotes an anti-oxidative, anti-apoptotic and immunomodulatory gene expression profile in human islets. Such protective changes in the pancreatic islets might further explain the sustained improvements in pancreatic beta cell function observed with continuous verapamil use.

Shalev and colleagues caution that their study, with its small number of subjects, needs to be confirmed by larger clinical studies, such as a current verapamil-type 1 diabetes study ongoing in Europe. But the preservation of some beta cell function is promising. <sup>EN</sup>



## HAVE YOU SEEN THE NEW CLINICAL PRACTICE GUIDELINES APP?

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Our updated mobile app makes our guidelines, decision aids, and point-of-care tools more accessible for those that need them the most.

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- New design with improved user interface
- Upgraded navigation and search
- Ability to share guidelines and guideline chapters



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## MEMBER SPOTLIGHT Q&amp;A

ENDO Attendee Spotlight:  
Oksana Hamidi, DO

Oksana Hamidi, DO, is an assistant professor in the Division of Endocrinology and Metabolism at UT Southwestern Medical Center in Dallas, Texas. Her main clinical and research focus is on adrenal and pituitary disorders.

*Why are you interested in attending ENDO 2022?*

I absolutely enjoy attending **ENDO** meetings because of their wide variety of sessions and topics. I have attended every **ENDO** since I was a third-year internal medicine resident. My first **ENDO** helped me finalize my decision to pursue an endocrinology fellowship. This year, I look forward to getting a clinical and research update, attending symposia and Meet the Professor sessions, exploring **ENDO EXPO**, catching up with my colleagues and mentors, and making new connections. I also look forward to exploring Atlanta and going out for dinner with my co-fellows.

*As a previous ENDO attendee, what is your fondest memory of the annual meeting?*

I have many great memories of each meeting! One of my earliest and fondest memories was attending a phenomenal session on pheochromocytoma and paraganglioma by Dr. Lauren Fishbein. I was a first-year endocrine fellow at that time, considering specializing in adrenal and neuroendocrine disorders. After the presentation, I had an opportunity to introduce myself, share my interests, and discuss patient care and research. Since then, I have looked to Dr. Fishbein for career and research advice and collaborated with her on several research projects. She also encouraged me to get involved in the Endocrine Society, which led me to joining and co-chairing an Early Career Special Interest Group. I am grateful to **ENDO** for giving me an incredible opportunity to meet and get inspired by top experts in the field.

*Would you recommend ENDO to a friend or colleague? If so, please explain.*

Absolutely! Each year, I strongly encourage our endocrine fellows to attend **ENDO** to learn cutting-edge science, present their research, get high-quality clinical updates, and network with top minds in the field.

Read more about Hamidi and other notable Endocrine Society members at: [www.endocrine.org/member-spotlight](http://www.endocrine.org/member-spotlight).



**Supply chain shortages are creating issues at the bench as the pandemic has led to changes in lab spending.**

**42.3%** said they are stockpiling supplies and reagents.

**61.26%** are purchasing additional safety equipment and PPE.

**41.08%** plan to restructure the lab space to allow for more physical distancing.

**20.90%** were investing in software to accommodate employees' remote work.

— SOURCE: LAB MANAGER

### Pandemic-Related Decreases in Cancer Detection Persist for Some Cancers

The greatest declines in incidence were seen for cervical cancer (68.1%), followed by endocrine cancer (63.1%).

— SOURCE: CANCER THERAPY ADVISOR

## BY THE NUMBERS



**\$2 billion**

Amount invested in health tech in **2011**.

**\$44 billion**  
Amount invested in health tech in **2021**.

— SOURCE: STARTUP HEALTH



**54%**  
Percentage of pregnant women who are regularly exposed to levels of endocrine-disrupting chemicals that could slow language development in their child according to new study.

— SOURCE: WWW.SCIENCE.ORG

# ENDO 2022

**June 11 – 14, 2022 • Atlanta, Georgia/Virtual Event**

## ADVANCE REGISTRATION:

**Advanced:** March 5, 2022 – May 18, 2022

**Late/On Site:** May 19, 2022 – June 14, 2022

## HOUSING DEADLINE: May 20, 2022

**ENDO 2022**, taking place June 11 – 14, will be the Society's inaugural hybrid meeting; attendees can participate in Atlanta, online... or both! This increased flexibility will foster expanded connectivity, community, and knowledge sharing among the diverse, international endocrine community. Each format has intrinsic benefits, and when the time comes, attendees will have the option to select the best format that suits their desires and needs when June 2022 rolls around.

Attendees can expect top-flight education at **ENDO 2022**, as well as a new vibrancy and contemporary conference experience with expanded networking. Learners can expect a range of carefully curated sessions in a variety of delivery formats spanning the endocrinology journey from bench to bedside and back again. **ENDO 2022** attendees will have the opportunity to tailor their learning experience to fit their precise professional and personal development needs. The Society is also ramping up its investment in technology-forward learning enhancements to align the **ENDO** learning experience with the reality of day-to-day life in the 21st century.

[www.endocrine.org/endo2022](http://www.endocrine.org/endo2022)



## 2022 ACOG Annual Clinical & Scientific Meeting

**San Diego, California**

**May 6 – 8, 2022**

The American College of Obstetrics and Gynecologists Annual Clinical Scientific Meeting (ACSM) has long been a gathering of the leading women's healthcare experts, and this year is no exception. ACSM provides attendees with cutting-edge research, clinical best practices, and collaborative solutions to the challenges faced by our members. Sessions for the meeting will center around four tracks: obstetrics, gynecology, professional development, and office practice. Concise and focused sessions across a variety of topics promise to engage attendees while providing opportunities to connect. The programming for ACSM

2022 will emphasize this year's theme: Reconnect, Recharge, Reset.

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

## The Growth Hormone (GH)/ Prolactin (PRL) Family in Biology & Disease Conference

**Athens, Ohio**

**May 15 – 19, 2022**

The aim of this FASEB Science Research Conference (SRC) is to improve our understanding of the regulation and action of growth hormone (GH) and prolactin (PRL) and their specific receptors. The conference will present and integrate novel research advances in GH/PRL biology to raise the profile of the field and foster new national and international collaborative projects. A

key aspect is to encourage and support emerging investigators/trainees and the participation of underrepresented groups.

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

## AAES 2022

**Cleveland, Ohio, and Virtual Event**

**May 22 – 24, 2022**

As the leading endocrine surgery association in North America, the American Association of Endocrine Surgeons (AAES) Annual Meeting is the premier event to connect with professionals and leaders across the globe in the field of endocrine surgery while receiving high-level education on the latest advancements in science and research. The 2022 Annual Meeting will be a hybrid event

taking place in Cleveland, Ohio, but with virtual opportunities. While in-person podium presentations are preferred, exceptions will be made, and the ability to travel to the meeting venue is not a prerequisite for abstract acceptance.

<https://www.endocrinesurgery.org/2022-annual-meeting>

## American Diabetes Association's 82nd Scientific Sessions

Hybrid – New Orleans, Louisiana

June 3 – 7, 2022

We know many of you are eager to get back to participating in-person, networking with colleagues, hearing the latest scientific advances and groundbreaking research presentations, and experiencing the exhibit and poster halls. We encourage everyone to join us June 3 – 7, 2022, at the Ernest N. Morial Convention Center in New Orleans, La. The health and safety of our attendees remain our top priority, and we will follow COVID-19 safety practices. For those unable to join us in-person, we are planning a virtual program to ensure as many people as possible can participate.

<https://professional.diabetes.org/scientific-sessions>

## The Phospholipids Conference: Dynamic Lipid Signaling in Health and Disease

Jupiter, Florida

July 31 – August 4, 2022

Launched in 1988, this FASEB Science Research Conference (SRC) is one of the longest-running lipid research meetings. This year's SRC explores all aspects of the biology and biochemistry associated with lipid signaling, lipid metabolism, lipid-protein interactions, and lipids in health and disease. A special workshop will highlight lipids in aging. This conference brings together leading investigators in lipid metabolism and signaling and helps train the next generation of U.S. investigators to bring new advances to lipid and aging discovery.

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

## INTERNATIONAL ITINERARY

### 3rd World Congress on Diabetes & Endocrinology

Dubai, UAE

May 9 – 10, 2022

The 3rd World Diabetes Congress 2022 brings together a unique international mix of experts, researchers, and decision makers both from academia and industry across the globe to exchange their knowledge, experience, and research innovations. This conference is a unique international platform that's a confluence of all stakeholders of the ecosystem — industry, academia, research, innovators, regulators — coming together to present and discuss current topics in diabetes and endocrinology, gestational diabetes, epidemiology and public health, obesity, pediatric endocrinology, diabetes and immunology, diabetic neuropathy, and many more. Join us to network with your peers, exchange expertise and experiences, and arm yourself with the latest information to take your department to the next level.

<https://diabetes.inovineconferences.com/>

### ECE 2022

Milan, Italy

May 21 – 24, 2022

The European Society of Endocrinology is extremely excited to be returning to a face-to-face congress for its 24th European Congress of Endocrinology. Attendees can attend this conference either in person, via the virtual ECE@Home platform. However you attend, ESE looks forward to seeing you at what is shaping up to be an excellent Congress. New for ECE 2022 are two unique registration types to ensure you have full access to the cutting-edge research in endocrine science and patient care being discussed. Visit the registration page for further information on attending in-person in Milan, Italy, or via ECE@Home.

<https://www.ece-hormones.org/>

### EndoBridge 2022

Antalya, Turkey

October 20 – 23, 2022

EndoBridge® is a unique initiative with the vision of bridging the world of endocrinology. The annual meeting of EndoBridge is co-hosted by the Endocrine Society and the European Society of Endocrinology in collaboration with the Society of Endocrinology and Metabolism of Turkey. EndoBridge will be held in English with simultaneous translation into Russian, Arabic, and Turkish. Accredited by the European Accreditation Council for Continuing Medical Education (EACCME), this three-day scientific program includes state-of-the-art lectures delivered by world-renowned faculty and interactive sessions covering all aspects of endocrinology. EndoBridge® provides a great opportunity for physicians and scientists from around the world to interact with each other, share their experience and perspectives, and participate in discussions with global leaders of endocrinology.

[www.endobridge.org](http://www.endobridge.org)

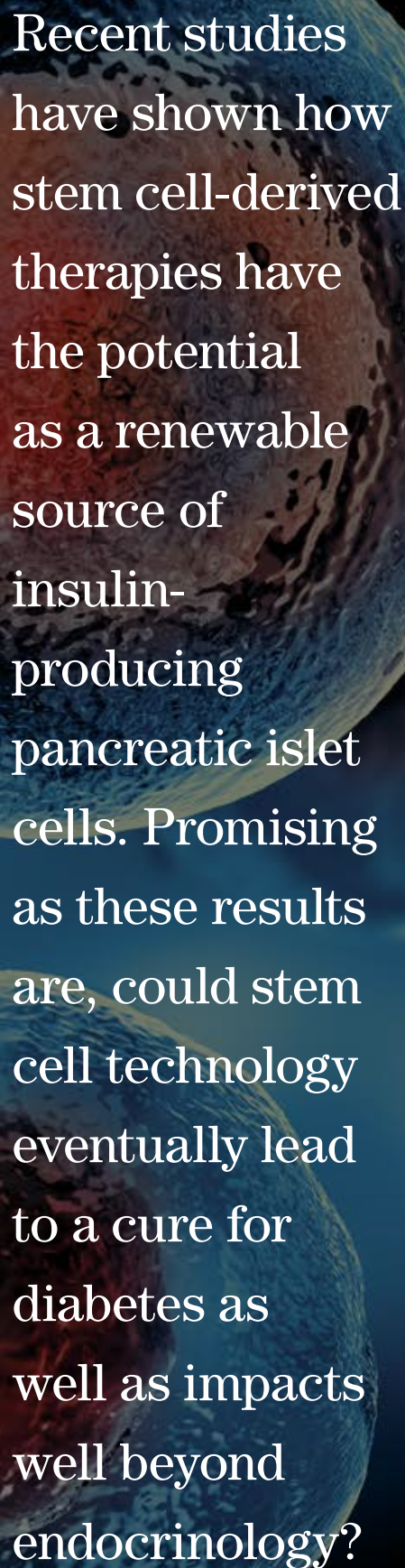


BY DEREK BAGLEY

Could Stem Cell  
Technology Be an  
Eventual Cure for  
Type 1 Diabetes?

# Islets IN THE Stream





Recent studies have shown how stem cell-derived therapies have the potential as a renewable source of insulin-producing pancreatic islet cells. Promising as these results are, could stem cell technology eventually lead to a cure for diabetes as well as impacts well beyond endocrinology?

Last December, two papers appeared in *Cell Stem Cell* and *Cell Reports Medicine*, touting positive preliminary results of an ongoing, first-in-human Phase 1/2 study demonstrating that a stem cell-derived therapy can produce glucose-responsive insulin in people with type 1 diabetes.

The *Cell Stem Cell* paper reports on findings from 15 patients who were implanted with ViaCyte's PEC-Direct product, comprising pancreatic cells (PEC-01) contained within macroencapsulation devices that allow for direct vascularization of the cells designed for subcutaneous placement. This part of the trial took place at the University of British Columbia (UBC) and Vancouver Coastal Health (VCH) in Canada. Six months after implantation, researchers observed that the cells had matured into insulin-producing islet cells. They also detected a rise in C-peptide levels after patients ate a meal, indicating functional insulin production in response to glucose levels. Furthermore, patients spent 13% more time in target glucose range, with some able to reduce the amount of their injected insulin.

Authors of the *Cell Reports Medicine* paper write about 17 subjects with type 1 diabetes who were also implanted with PEC-Direct, allowing for direct vascularization of the cells. Results indicate positive C-peptide levels as early as six months post-implant in some patients. These data suggest that pancreatic endoderm cells can be differentiated into, and offer a potential scalable, renewable source of insulin-producing, pancreatic islet cells.

These insulin-producing cells are developed through a directed differentiation process that enables pluripotent stem cells to progress along a defined pathway and become precursor (endoderm) pancreatic cells. Once implanted, these cells then have the potential to further differentiate to become mature, fully functioning islet cells. As healthcare starts to pivot to regenerative medicine, this technology could be the dawn of a bright future for those living with type 1 diabetes, their caregivers and families, and even the physicians treating them.



“Stem cell technology is remarkable in that you can generate literally billions of cells for these different treatment modalities. And we think we are in the process of demonstrating the potential of this type of cellular replacement therapy on type 1 diabetes. But that the potential goes far beyond diabetes and even endocrinology for that matter.”

— HOWARD L. FOYT, MD, CHIEF MEDICAL OFFICER, VIACYTE,  
SAN DIEGO, CALIF.

But as futuristic as this work may seem, these results have been a work in progress. “The story dates back all the way to 2014, when we implanted our first product, PEC-Encap into a man,” says Howard L. Foyt, MD, PhD, chief medical officer at ViaCyte and corresponding author of the two papers. “And at that time, we had great data in the pre-clinical models, and we thought we’d be off to the races and running. Unfortunately, clinical research is not a straight line from point A to point B. And we’ve faced down unexpected challenges, so to speak, so it’s taken longer than we anticipated.

“But the bottom line is that we’ve learned a lot along the way,” he continues. “And we’ve applied the lessons learned from one development program to the other program. And it really has facilitated our progress along the way.”

## Closer than Ever to a Cure?

Foyt tells *Endocrine News* that the *Cell Reports Medicine* paper reports on work from three years ago, one of the team’s earliest cohorts. He says that the importance of the paper is that it provides the first proof of concept that it is possible to use a stem cell-derived therapy to produce insulin in patients with type 1 diabetes.

And the researchers have progressed since then. At the American Diabetes Association (ADA) meeting last year, Foyt and his team reported on one patient who was able to achieve a C-peptide level of 0.8 ng/mL, sufficient to have a significant glycemic impact. The patient’s hemoglobin A1C went from a baseline of 7.4 to 6.9 at 52 weeks.

Foyt says that this patient had not achieved an A1C below 7.0% in the previous five years. “The patient is now up to around a year and a half of being treated with PEC-Direct, and the A1Cs sustained below 7.0,” he says. “At the same time, exogenous insulin dose has decreased by over 70% from its optimized level. And so we’re down to only 11 units per day. And this has been sustained.”

The last parameter that’s important to note for these patients is time in range. All the participants enrolled in these trials have to be on continuous glucose monitors. This same patient went

from a baseline time in range of 54% to 89%. “Some of the recent times in range have been greater than 90%,” Foyt says. “And that’s very impressive.”

Impressive indeed. After ViaCyte’s presentation at the ADA meeting, the nonprofit T1D Exchange wrote that the company is “closer than ever to finding a functional cure for diabetes.” That’s certainly a possibility, but there’s still work to be done.

Currently, patients implanted with the PEC-Direct device must be on chronic immunosuppression. That product is directed at high-risk patients with type 1 diabetes who have either hypoglycemia unawareness or extreme glycemic lability. But ViaCyte has recently entered into a collaboration with CRISPR to develop a gene-edited version of the product to be immune evasive, which the researchers refer to as VCTX210, and they are recruiting participants to help put that to the test.

“With VCTX210, if we are successful in eliminating the requirement for immunosuppression, it can not only be used to treat our type 1 subjects but also potentially an adjunct therapy for insulin-requiring type 2 patients,” Foyt says. “Once we progress beyond these earlier stages of development for the diabetes products, it may be possible to apply the same regenerative medicine technology to other indications that would be amenable to cellular replacement therapy, such as treatments for thyroid or parathyroid glands.”

## Patient Patients

If that functional cure for type 1 diabetes really is within reach, then it may be a matter of serendipity that the investigator who did the first islet cell transplant in 2001 was James Shapiro, MD, PhD, Canada Research chair and director of the Islet Transplant Program at the University of Alberta, Canada. (Shapiro is also the lead author of the *Cell Reports Medicine* paper.) After all, it’s a source of pride for Canada that insulin changed the world, and now that pride can swell if they can claim a functional cure for diabetes as well.

The potential therapeutic benefits of PEC-Direct take a bit more time to be manifested compared to an islet cell transplant. Investigators report that the patients think the product is having an immediate, positive therapeutic effect, but it takes time for the precursor pancreatic cells to differentiate in vivo to become mature islet cells. Patients must have patience when it comes to decreasing their insulin dose. “At the same time, since the cells are contained within a device, the device has to become vascularized so that you can have this exchange of information between the systemic circulation and the graft cells contained in the lumen of the device,” Foyt explains. “That vascularization takes time as well. Consequently, there’s a lag phase between the implantation and when you start to see elevated levels of C-peptide.”



## AT A GLANCE

- ▶ Recent reports have shown that stem cell–derived therapies have the potential to offer a renewable source of insulin-producing pancreatic islet cells, a novel treatment for people with type 1 diabetes.
- ▶ The results so far have been encouraging, and the researchers are progressing into newer stem cell–derived therapies that don’t require immunosuppression.
- ▶ Not only could this stem cell technology lead to a potential functional cure for diabetes, it could have vast therapeutic impact beyond endocrinology.



Still, the researchers have found that where it once took six to nine months to see the appearance of C-peptide, they're now finding it only takes three to four months.

## Beyond Diabetes and Endocrinology

Then there might be pushback from physicians who still shy away from anything with the phrase “stem cell” attached to it. There are some who bring up ethical issues surrounding stem cell technology, but according to Foyt, all of this work has been possible because of the donation of a single embryo from a couple who had been undergoing in vitro fertilization. When the couple completed their family, they elected, under informed consent, to donate this embryo to science in 2004. “And from that single embryo, we generated cell banks that have allowed us to do all of the research to date,” Foyt says. “Because of the vast potential of stem cells to generate, these cell banks have the potential of generating billions of cells, to the point that we could potentially treat every patient with diabetes on the planet.”

“And the people who believe otherwise, we respect their beliefs,” Foyt continues, “but we also feel that the power and the potential for the millions of patients who could benefit from this type of therapy, again far outweigh any objections.”

The pros outweigh any con. And again, the implications of these findings could have vast implications in healthcare. “The scientists working on stem cell-derived islets for the therapy of type 1 diabetes have made tremendous progress and deserve our congratulations,” says Daniel J. Drucker, PhD, professor of medicine at the Lunenfeld-Tanenbaum Research Institute, Mount Sinai Hospital, Toronto, Canada. “As one looks to the future, we await further advances in ongoing research pursuing strategies to avoid immune rejection (cell engineering, encapsulation, immunosuppression) while maintaining healthy oxygenated highly functioning islets.”

There is the potential for vast therapeutic impacts that cellular replacement therapy and regenerative medicine techniques could have on various indications. “Stem cell technology is remarkable, in that you can generate literally billions of cells for these different treatment modalities,” Foyt says. “And we think we are in the process of demonstrating the potential of this type of cellular replacement therapy on type 1 diabetes. But that the potential goes far beyond diabetes and even endocrinology for that matter.” <sup>EN</sup>



“ The scientists working on stem cell-derived islets for the therapy of type 1 diabetes have made tremendous progress and deserve our congratulations. As one looks to the future, we await further advances in ongoing research pursuing strategies to avoid immune rejection (cell engineering, encapsulation, immunosuppression) while maintaining healthy oxygenated highly functioning islets.”

— DANIEL J. DRUCKER, PHD, PROFESSOR OF MEDICINE,  
LUNENFELD-TANENBAUM RESEARCH INSTITUTE,  
MOUNT SINAI HOSPITAL, TORONTO, CANADA

— BAGLEY IS THE SENIOR EDITOR OF *ENDOCRINE NEWS*. HE WROTE ABOUT THE ENDOCRINE SOCIETY'S POLICY PERSPECTIVE ON ERADICATING RACISM IN ENDOCRINOLOGY IN THE MARCH ISSUE.

Nadia Barghouthi, MD, MPH, and Jessica Perini, MD, MS, colleagues in the Department of Endocrinology and Metabolism at West Virginia University School of Medicine, talk to *Endocrine News* about their new book, *Endocrine Diseases in Pregnancy and the Postpartum Period*, what they discovered while researching it, and who needs this book in their library.



# DYNAMIC DUO

## Talking *with the Editors of a New Book on Endocrine Diseases in Pregnancy*

**A**lthough writing a book had always been on her “bucket list,” Nadia Barghouthi, MD, MPH, interim section chief and assistant professor, endocrinology and metabolism and assistant program director of the WVU Endocrinology Fellowship in the WVU Department of Medicine, Morgantown, W.V., just assumed it would be about her cat. That all changed when she was in her first year as an endocrinology fellow and was approached about writing a book centering around an endocrinology topic of her choosing.

Barghouthi drafted Jessica A. Perini, MD, MS, her colleague at WVU, an associate professor of endocrinology and metabolism as well as the program director of WVU Endocrine Fellowship and the medical director of WVUH Inpatient Diabetes in the Department of Internal Medicine at the WVU School of Medicine, to come to a meeting with publisher Taylor & Francis in New Orleans, La., at **ENDO 2019**.

The topic tackling endocrine disorders during pregnancy was decided upon since there weren't a lot of books on that topic out there and a new one was sorely needed. The co-editors talk to *Endocrine News* about their new book, the surprises they discovered along the way, and their contemporary look at transgender health during pregnancy.

**BY MARK A. NEWMAN**

**Endocrine News: What inspired you to undertake writing *Endocrine Diseases in Pregnancy and the Postpartum Period*?**

**Nadia Barghouthi, MD, MPH:** Writing a book was on my list of life goals, but I thought my first book would be a children's book about my cat, Mars. When I was a first-year endocrinology fellow, I was approached by the commissioning editor of medical sciences at CRC Press, Taylor & Francis, and asked if I had any ideas for a book. We set up a meeting at **ENDO 2019** in New Orleans. At that time, I had only written a couple of case reports and was still learning to be an endocrinologist, so I asked my program director (now colleague), Jessica Perini, to come to the meeting with me. We knew that there weren't that many books out there dedicated specifically to the diagnosis and treatment of endocrine diseases in pregnancy, so we were excited for the opportunity to write a book to help this patient population.

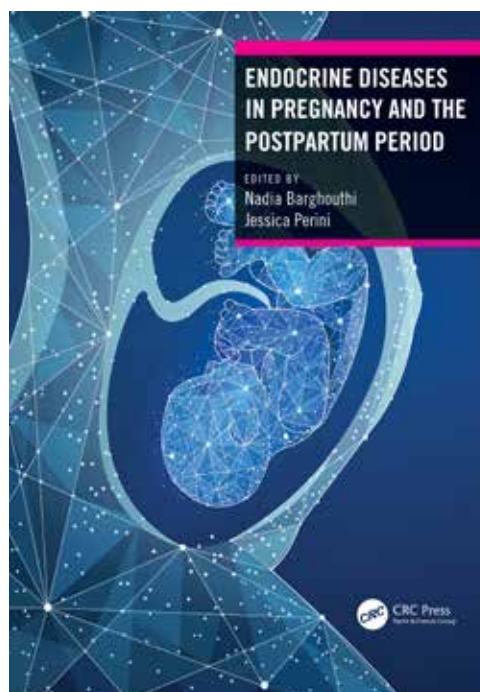
**Jessica A. Perini, MD MS:** Nadia made me do it. Nadia was approached by a publisher after they saw a case report she had written and asked her if she would be willing to write a textbook. I was there during the conversation with the publisher, and so Nadia and I both agreed to come up with a general theme we would want to focus on for the book and then start the long process of putting it together. We chose endocrine and pregnancy as there were very few publications focusing on this, and this topic seemed to give us the opportunity to touch on all aspects of endocrinology, like we would want to do, yet with some unique and specific perspectives.

**EN: In researching *Endocrine Diseases in Pregnancy and the Postpartum Period*, what surprised you the most? In other words, from a content perspective, what did you learn from the book that you didn't already know?**

**NB:** There are guidelines to help with diagnosis and management for diabetes and thyroid disease in pregnancy; however, most other diseases we reviewed have no clear guidelines. Many

“ A good part of the content of the book is review of fundamental endocrine issues, but some of the basic physiology, as it pertains to pregnancy, was fascinating. **The physiologic changes that the body goes through during pregnancy, the production or inactivation or adjustment of hormones to carry a pregnancy to term, are amazing.** ”

— JESSICA PERINI, MD, MS, ASSOCIATE PROFESSOR, ENDOCRINOLOGY AND METABOLISM; PROGRAM DIRECTOR, WVU ENDOCRINE FELLOWSHIP; MEDICAL DIRECTOR, WVU INPATIENT DIABETES, DEPARTMENT OF INTERNAL MEDICINE, WVU SCHOOL OF MEDICINE, MORGANTOWN, WV



“

True endocrine emergencies are rare but have high mortality if not promptly diagnosed with examples including adrenal crisis, thyroid storm, and pituitary apoplexy. So, it is important for clinicians to be aware of how these disorders can present in pregnancy and to maintain a high suspicion for endocrine disorders in the right clinical setting.”

— NADIA BARGHOUTHI, MD, MPH, INTERIM SECTION CHIEF, ASSISTANT PROFESSOR, ENDOCRINOLOGY AND METABOLISM; ASSISTANT PROGRAM DIRECTOR, WVU ENDOCRINOLOGY FELLOWSHIP, WVU DEPARTMENT OF MEDICINE, MORGANTOWN, WV



adrenal and pituitary disorders have very limited information, which comes mostly from case reports. There is so much to learn regarding normal physiology in pregnancy that is necessary in order to understand when something is abnormal. For example, growth hormone (GH) physiology in pregnancy is very interesting. The placenta regulates the somatotrophic system during pregnancy, as it becomes the main source of GH, while GH secretion by the pituitary is inhibited. The placenta produces a variant GH (GH-V) that contributes to stimulation of IGF-1, which then increases insulin resistance in the mother and directs glucose to the fetus to promote fetal growth. In the first trimester, pituitary GH (GH-N) is the predominant form of GH in the maternal serum. It does not cross the placenta and is not necessary for gestation and normal fetal development. Rising estradiol levels induce a state of GH resistance as reflected by a significant decline in IGF-1 levels. After this, GH-V levels begin to rise and overcome GH resistance as reflected by increasing IGF-1 levels. By gestational week 36, the GH-V level is comparable to GH levels in women with acromegaly, therefore making the diagnosis of acromegaly in pregnant patients extremely difficult.

**JP:** A good part of the content of the book is review of fundamental endocrine issues, but some of the basic physiology, as it pertains to pregnancy, was fascinating. The physiologic changes that the body goes through during pregnancy, the production or inactivation or adjustment of hormones to carry a pregnancy to term, are amazing. During the several times that Nadia and I were reading the entire book out loud to each other to proofread and edit, we were constantly saying to each other, “Oh my gosh, that is so cool!”

**EN: What hormone disorders are most concerning during a pregnancy?**

**NB:** Any untreated hormone excess or deficiency carries significant risk of morbidity to the mother and fetus. True endocrine emergencies are rare but have high mortality if not



promptly diagnosed with examples including adrenal crisis, thyroid storm, and pituitary apoplexy. So, it is important for clinicians to be aware of how these disorders can present in pregnancy and to maintain a high suspicion for endocrine disorders in the right clinical setting.

**JP:** Honestly, they all are if not treated. Uncontrolled diabetes can lead to many complications, ranging from fetal malformations to fetal and maternal mortality. Uncontrolled thyroid problems are also risky to both the fetus and the patient. Disorders of cortisol are often difficult to diagnose in pregnancy and can lead to complications. Some hormonal conditions, such as growth hormone deficiency, we just don't know enough about yet to know for certain how to treat and our guidelines cannot give us clear instructions as to whether to continue treatment during pregnancy. Although this example of growth hormone replacement during pregnancy is not particularly concerning, it raises the point that there are many safety aspects of medications in pregnancy that we still don't know much about.

**EN: Dr. Perini, you authored the chapter on transgender health during pregnancy and the postpartum period. Can you give us an overview of what this chapter covers, and what are some of the most surprising aspects of transgender pregnancy care you discovered?**

**JP:** The chapter regarding pregnancy in transgender men covers the minimal information that exists so far regarding pregnancy in this population. One of the most important things we need to be aware of when providing care to transgender people is that very often their experiences with the medical world have been negative, hence many trans men who are pregnant do not even seek pre- or perinatal care. Testosterone is category X in pregnancy, meaning that it should be stopped during pregnancy; however, stopping gender-affirming hormones can worsen gender dysphoria, potentially complicating the pregnancy. Trans men who are pregnant may face uncomfortable questions. Preferred terminology, such as patient's preferred pronouns, how the patient wants to be called as the parent (father, mother, etc.), how the patient wants to refer to nursing the infant (chest-feeding, etc.), must always be considered and patient preferences adhered to diligently.

One of the most surprising things I learned while researching this topic was how quickly trans men may recover ovulatory

function even after years of gender-affirming testosterone use. Up to 80% of people who stop their testosterone have resumption of menses within six months. I personally have a patient who stopped his testosterone on purpose to become pregnant and was pregnant within one month of testosterone cessation, then carried the pregnancy successfully to term. For those who do not regain ovulatory function, fertility treatments have been successful for many people. In addition, although the majority of trans men have not had a hysterectomy, for those who have and are desiring pregnancy, there is some minimal data showing that uterine transplants could be considered, although very experimental at this time.

**EN: Who would be the ideal audience for *Endocrine Diseases in Pregnancy and the Postpartum Period*?**

**NB:** Anyone who treats pregnant patients, including endocrinologists, obstetricians and gynecologists, and primary care providers.

**JP:** Everyone who wants a good comprehensive pocket guide to all things endocrine should get the book. Although the book title includes pregnancy, the vast majority of endocrine topics are included in the book and can pertain to non-pregnant people as well. We made the book somewhat bullet-point so that it is easy to find what you are looking for in each chapter. Medical students, internal or family medicine residents, Ob/Gyn residents, endocrine fellows, and endocrinologists will find the book user-friendly and comprehensive.

**EN: Anything else you would like to add?**

**NB:** I am proud of all the hard work and effort of every author who contributed. We were very fortunate to have authors from various specialties contribute including obstetrician/gynecologists, nephrologists, obesity medicine specialists, and of course, many endocrinologists. I sincerely hope this book will help many clinicians in their care of pregnant patients.

**JP:** This was a true collaborative effort, with many different people contributing their knowledge and time to this project. It was also a huge undertaking — much more time-consuming than I had ever thought it would be. Thanks to Nadia for being very organized. If anyone thinks they want to produce a book with someone else, they need to make sure that they both have similar work styles, writing styles, and patience levels. I was very lucky to have worked on this with Nadia. **EN**

ENDO 2022

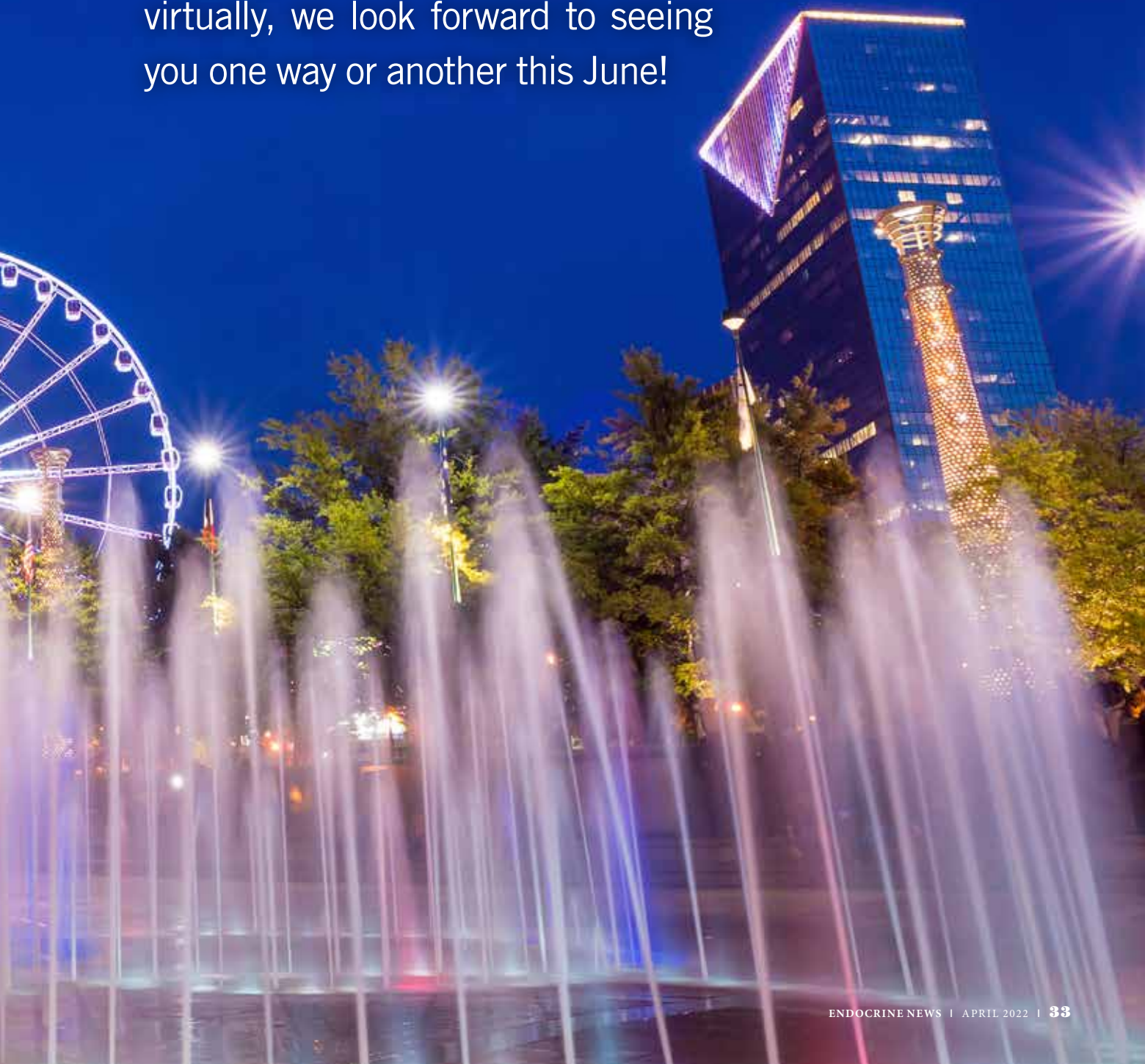
# Georgia, ON MY MIND

BY COURTNEY CARSON

Centennial Olympic Park in Atlanta during twilight hour after sunset.  
Photo credit: f11photo/Shutterstock



As the Endocrine Society prepares to welcome the endocrinology community from around the world to Atlanta for **ENDO 2022**, *Endocrine News* is highlighting some of our host city's local flair as well as a few components of the conference itself. Since this year's annual meeting can be attended either in person or virtually, we look forward to seeing you one way or another this June!





Skyview Ferris Wheel in Downtown Atlanta. Photo credit: Sean Pavone/Shutterstock.

We are excited to invite thousands of endocrine professionals to Atlanta, Ga., June 11 – 14 for **ENDO 2022**. **ENDO** is the seminal meeting in hormone health and science, welcoming leading experts, researchers, and the most respected clinicians in the field as we share the latest developments in endocrine research and patient care.

This year, we will be offering registrants the option to attend our meeting in person or virtually, so you are able to participate as you prefer. If traveling to Atlanta to attend in person sounds appealing to you, we hope this travel guide will convince you to book your trip now!

World-class restaurants, professional sports teams, and an abundance of attractions and events shine a spotlight on Atlanta, a city that takes centerstage as a showplace of the South. The capital of Georgia, Atlanta is a bustling city with glittering skylines dotted with expansive green spaces and charming neighborhoods made up of treelined streets. Always growing and changing, Atlanta is an urban oasis that exudes Southern hospitality and welcomes travelers from across the world.

**If you haven't  
made your  
reservations for  
ENDO 2022 yet,  
what are you  
waiting for?**

### **From the Heart**

The heart of the city is downtown, making it the perfect starting point for first-time visitors. And for convenience's sake, downtown also happens to be home to the Georgia World Congress Center, where **ENDO 2022** will take place. Known as "the crown jewel of Atlanta's downtown entertainment district," Centennial Olympic Park is a year-round destination for locals and visitors alike. This 22-acre greenspace serves as Georgia's legacy of the 1996 Summer Olympic Games with its iconic Fountain of Rings and is only steps away from some of Atlanta's top attractions.

Towering nearly 20 stories above Centennial Park, the SkyView Ferris wheel features 42 climate-controlled, private gondolas providing guests with breathtaking panoramic views of downtown Atlanta and the surrounding metropolitan area.



# ENDO2022

## Day by Day

No doubt your days will be packed while you're at Atlanta's Georgia World Congress Center, weaving through the crowds as you make your way to various sessions and presentations at **ENDO 2022**. Here are just a few highlights — among hundreds — that might appeal to you.



### Saturday, June 11

**Plenary: Envisioning Future Therapies for T1D: Where Biology Meets Technology, 8:00 a.m.**

This groundbreaking plenary session will look at the future of technology in treating type 1 diabetes. Among the topics are: Modifying stem cell–derived beta cell function; Tech v. Biology; as well as a Presidential Address from Endocrine Society President Carol H. Wysham, MD, and the presentation of the Fred Conrad Koch Lifetime Achievement Award to Henry M. Kronenberg, MD.

**Career Development Workshop: The Business of Starting and Running a Lab: Top 5 Strategies to Running a Successful Lab, 9:45 a.m.**

This session includes three discussions on launching and running your lab and will provide you the basics for what you need to know to get your lab up and running from speakers Sayeepriyadarshini Anakk, PhD; Kristy A. Brown, PhD; and Matthew Sikora, PhD.

### Sunday, June 12

**Hot Topics in Endocrine Hypertension, 9:15 a.m.**

This in-depth symposium will provide attendees with the latest research regarding hypertension with separate sessions dedicated to Maternal and Fetal Outcomes in Pheochromocytoma and Pregnancy; Targeted Metabolomics as a Tool in Discriminating Endocrine from Primary Hypertension; Genetic Cause of Primary Aldosteronism Presenting in Puberty, Pregnancy or Menopause; and The Unrecognized Prevalence of Primary Aldosteronism.

**Meet the Professor: Electronic Tools to Help Patients During Their Weight Loss Journey, 1:30 p.m.**

Attendees to this session will hear firsthand from Manpreet Mundi, MD, about the many breakthroughs in recent years in the realm of new tools that help patients on their journeys to overcome obesity. Presented both in-person and virtual formats, participants will be allowed ample time to ask questions about these new techniques.

### Monday, June 13

**Plenary: Intersex, Transgender, Exercise in Endocrinology, 8:00 a.m.**

During this plenary moderated by Society president Carol H. Wysham, MD, the Roy O. Greep Award for Outstanding Research will be presented to Michael W. Schwartz, MD, and the Richard E. Weitzman Outstanding Early Career Investigator Award will be presented to Shingo Kajimura, PhD. As part of the session's topic, Guy T'Sjoen, MD, PhD, will discuss "Contemporary care for transgender people: An endocrinologist's perspective," and Yannis Pitsiladis, PhD, will talk about "Integrating transwomen and female athletes with DSD into elite competition."

**Debate: Should Weight Management Be a Primary Treatment Goal for Type 2 Diabetes? 9:15 a.m.**

Moderated by James R. Gavin III, MD, PhD, this debate will look at this treatment priority of two different points of view: Ildiko Lingvay, MD, will take the view that indeed, weight loss should be top priority in treating type 2 diabetes patients while David M. Nathan, MD, will take the opposing view. This promises to be a very lively session!

### Tuesday, June 14

**Career Development Workshop: Building Your Personal Brand through Social Media, 8:00 a.m.**

When it comes to communications, whether it's with colleagues, patients, vendors, etc., all the rules have changed thanks to social media. Luckily, we have two stalwarts in the world of social media who will be on hand to teach you how to build your brand using this new, often confusing medium. Joy Wu, MD, PhD, division chief of endocrinology, Stanford University School of Medicine, Stanford, Calif.; and Joshua Joseph, MD, associate professor of endocrinology, diabetes, and metabolism, Ohio State University College of Medicine, Columbus, Ohio, will share their own "tricks of the trade" to build your social media presence.

**Meet the Professor: What's Wrong with This Picture? A Practicum on Thyroid Ultrasound Imaging, 9:45 a.m.**

Using ultrasound imaging on the thyroid can be confounding for many practitioners, but this session aims to look at some of the most common issues with this methodology. Part of the session, entitled "Challenging Cases in Thyroid Ultrasound Imaging," will present some of the most unusual cases this renowned faculty has faced.

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



Top: Crowds enjoying the Georgia Aquarium, *photo credit: Ravenash/Shutterstock*. Bottom: World of Coca-Cola museum in the city of Atlanta, *photo credit: Michael Gordon/Shutterstock*.

Those looking for an even more enhanced experience will enjoy the VIP gondola boasting Ferrari-style seats, a glass floor, and a longer flight time. The National Center for Civil and Human Rights, which opened in 2014, is a museum and human rights organization in Atlanta that inspires people to tap their own power to change the world around them. The Center's iconic exhibitions feature the papers and artifacts of Dr. Martin Luther King, Jr., the history of the U.S. Civil Rights Movement, and stories from the struggle for human rights around the world today.

The Georgia Aquarium invites guests of all ages to "Explore With Wonder, Connect With Real." In a world where it's too easy to just move from screen to screen, the Georgia Aquarium moves guests from ocean to ocean with face-to-face experiences, hands-on exhibits, and real wonders like nowhere else on earth. The birthplace of "the world's most famous beverage," Atlanta offers the perfect spot to quench your thirst on a Southern summer day. At World of Coca-Cola, you will experience the world's most famous beverage in a dynamic, multimedia attraction with a behind-the-scenes look at the bottling process, getting closer than ever before to the vault that houses the secret formula for Coca-Cola, and a trip around the globe as you taste beverages from all over the world. The College Football Hall of Fame was established in 1951 to immortalize the greatest players and coaches as positive role models for future generations. Atlanta's Chick-fil-A College Football



Hall of Fame features a 45-yard indoor football field, more than 50 interactive exhibits, and a shrine to the greatest to ever play or coach the game.

## History Lives On

Only a few miles from downtown, the Atlanta History Center in Buckhead offers a fascinating look at the city's history through exhibits that include pieces from the 1996 Summer Olympics, memorabilia from golf legend Bobby Jones, relics from the Civil War, and a multi-media experience interpreting the Battle of Atlanta cyclorama painting. History buffs will also enjoy the Jimmy Carter Presidential Library and Museum. The exhibits detail Carter's rise from a humble peanut farmer in Plains, Ga., to president of the United States. This museum features a replica of the Oval Office, Carter's Nobel Peace Prize, and other items related to his life.

The capital city of Georgia, Atlanta has a storied history and has been on the forefront of social change over the years — from the Civil War to the Civil Rights Movement and beyond. *National Geographic* has taken notice and named Atlanta one of the top destinations in 2022: "At a time when voting rights are in contention in the United

States, Atlanta is flexing its cultural and political muscle." The Martin Luther King Jr. National Historical Park commemorates the area where King was born, lived, worshiped, and is now buried. Here, at one of Atlanta's most important attractions, guests can walk in MLK's footsteps, hear his voice in the church where he moved hearts and minds, and marvel at how he was an instrument for social change.



The National Center for Civil and Human Rights was begun in Atlanta in 2012 by the wives of Joseph Lowery and Ralph David Abernathy, photo credit: Darryl Brooks/Shutterstock.

With more than 15,000 works of art in its permanent collection, the High has an extensive anthology of 19th and 20th century American art, a substantial collection of historic and contemporary decorative arts and design, significant holdings of European paintings, and burgeoning collections of modern and contemporary art, photography, folk and self-taught art, and African art. The High is also dedicated to supporting and collecting works by Southern artists. Museum of Design Atlanta (MODA) creates engaging exhibits of architecture, industrial and product design, interiors and furniture, graphics, fashion, and more. MODA celebrates the impact of design on everyday life with a range of programs and lectures for all ages.

Kenny Leon's True Colors Theatre Company shines a light on bold artists of all cultures as they continue the rich tradition of Black storytelling on stage. Each show

## Feeling Artsy

The High Museum of Art is the leading art museum in the southeastern U.S. With more than



## Back & Better Than Ever:

Live music and theater return to Atlanta! Here's a look at what's taking centerstage during **ENDO 2022**.

### Roe

**May 6 – June 12, 2022**

Play at Horizon Theatre

### Trading Places: The Musical

**May 25 – June 26, 2022**

Musical at the Alliance Theatre

### Lady Day at Emerson's Bar & Grill

**June 1 – 26, 2022**

Play at the Balzer Theater at Herren's

### Disney's Frozen

**June 2 – 12, 2022**

Musical at the Fox Theatre

### Coldplay: Music of the Spheres World Tour

**June 11, 2022**

Concert at the Mercedes-Benz Stadium

### Ben Rector: The Joy of Music Live

**June 11, 2022**

Concert at the Ameris Bank Amphitheatre

Though once facing demolition, Atlanta's Fox Theater (top) was saved and is now a National Historic landmark that attracts roughly 750,000 people annually, photo credit: f11photo/Shutterstock.



## Knock Knock

Want to discover Atlanta's best hangouts with a scavenger hunt? Keep an eye out for **Tiny Doors ATL**, the itty-bitty art installations beloved by locals. These six-inch doors guide visitors through Atlanta's neighborhoods and attractions and reflect the city's creative vibes.

**TIP:** Start at the Visitor Center in Centennial Olympic Park, where three of artist Karen Anderson Singer's imaginative doors fit within an augmented reality mural made by local Atlanta artists, Lotus Eaters Club.



Top: Little Five Points is an alternative cultural district in Atlanta, *photo credit: ESB Professional/Shutterstock*. Bottom: Tiny door in Atlanta, Georgia, Little Five Points, *photo credit: whiskerhead/Shutterstock*.

here is based on a powerful message told in a way that educates, entertains, and delights. See groundbreaking performances at the Tony Award-winning Alliance Theatre where musicals, dramas, and classical favorites are brought to Atlanta's theater scene.

## Out and About

The BeltLine is one of the most popular attractions in the city. This spectacular outdoor space comprises 22 miles of unused railroad tracks circling the core of the city's in-town neighborhoods. From trails and walkways to open green space and parks, the Atlanta BeltLine connects people to neighborhoods, dining, and cool places throughout the city. Thousands of visitors flock to the Atlanta BeltLine to exercise, explore Atlanta's neighborhoods, and spend time with friends and family. A world-class amenity similar to New York City's High Line, the Atlanta BeltLine is also home to Art on the BeltLine, the Southeast's largest temporary public art project.

Nestled in the northern corner of Piedmont Park, Atlanta Botanical Garden is a hidden gem in the midst of the busy city. The display gardens and shady woodlands spread across more than 30 acres and feature plant collections including roses, herbs, conifers, carnivorous plants, and more.

Fans of art and cultural tourism will enjoy Atlanta's science and nature experience — Fernback. Guests explore 75 acres of the great outdoors, three levels of indoor science adventures, and movies so amazing they require a giant, four-story screen. A variety of engaging experiences, from new live animal exhibits to outdoor installations to interactive science explorations, are featured every day.

## Savor the Flavor

With so much to see and do, there's no doubt you'll work up an appetite. More than a decade since twin brothers Jonathan and Justin Fox opened Fox Bros. Bar-B-Q, customers still have to wait for a table. The brothers' brisket is legendary, but they are just as well-known for their unique barbecue offerings: the camp classic Frito Pie served in the actual bag, hickory-smoked jumbo wings dressed in homemade sauce, and a nine-inch, smoked beef rib that will fill even the hungriest diner's tummies. For a tried and true classic, head to Busy Bee, which fed Civil Rights leaders, including Martin Luther King, Jr. Since 1947, the woman-owned institution has reliably served heaping helpings of soul food: smothered pork chops, oxtails, fried chicken, collards, and cornbread dressing. Old-school politicians and R&B stars alike continue to file into the tight quarters on the outskirts of Atlanta's HBCU complex, seeking lunch or early dinner.

And while Atlanta serves up some of the South's best soul food, that's only the beginning of what's on the menu in this city!

Those seeking a fine dining experience won't be disappointed. Two-decade-old fine-dining stalwart Bacchanalia and its epic tasting menu are better than ever. The





menu features the restaurant's most popular offering, the crab fritter made with Maine lobster, caviar, and brioche, and a rotating array of seasonal entrees and desserts. While reservations are necessary for a table here, guests can head to the bar for cocktails, a glass of wine, and the a la carte menu.

Spring, one of Atlanta's most acclaimed restaurants, serves a seasonally inspired menu paired with a carefully curated wine list. Favorites include the grilled wagyu flatiron steak, braised short rib, or a whole fish course. Desserts are a must at Spring, which change often and incorporate herbs, fruits, and other ingredients of the season. Some say the best table in all of Atlanta is on the covered patio overlooking Canoe's blooming gardens and the Chattahoochee River. And just as memorable as the view? The one-of-a-kind menu features California asparagus salad, Purple Haze carrots flavored with crunchy hazelnuts and Moroccan-spiced coconut, and roasted monkfish with broccoli rabe and fingerlings in a caper vinaigrette.

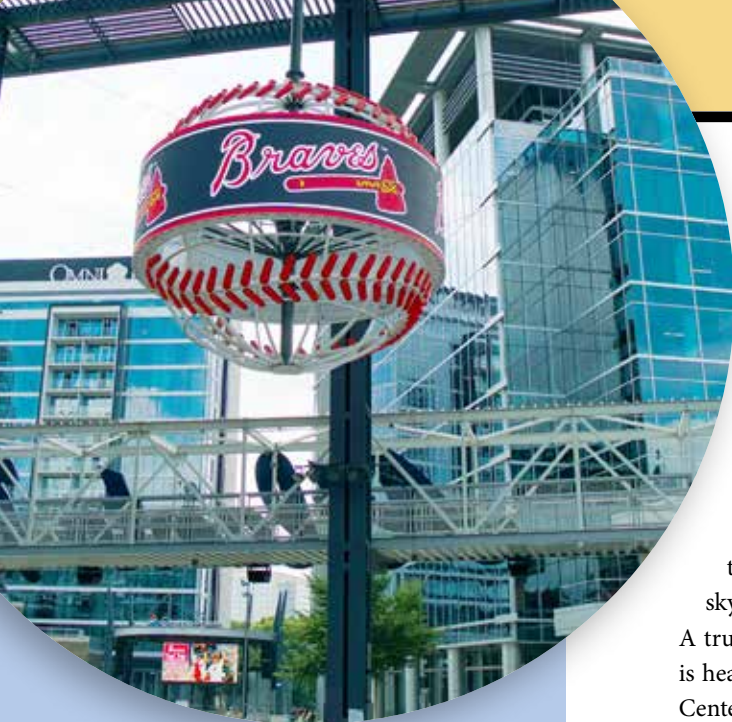
One of Atlanta's most delicious hidden gems is located in the basement of an unassuming south Buckhead apartment building. La Grotta opened in 1978, and it's a welcome throwback to another time — when white tablecloths still graced tables and truffles were shaved onto your plate tableside. The regal servers deliver bygone glamour, along with a wide range of pasta and veal dishes.

A true melting pot, Atlanta offers its share of almost every cuisine imaginable. From Laotian at Snackboxe Bistro to Indian at Chai Pani, there's something to please every tastebud.



**Top:** Earth goddess plant sculpture in the Atlanta Botanical gardens for the Once Upon a Time theme, *photo credit: Nicholas Lamontanaro/Shutterstock*. **Bottom:** View of the High Museum of Art, a major art museum located in the Woodruff Arts Center, *photo credit: EQRoy/Shutterstock*.





## We Are the Champions

Truist Park, the home of the **Atlanta Braves** Baseball Club, is a state-of-the-art ballpark that merits a visit on its own, but now it's a must since it's home to the World Series Champs.

The Braves will take on the Pirates on June 9 – 12 at Truist Park. For tickets and more information, visit: [www.mlb.com/braves](http://www.mlb.com/braves).

MLB Atlanta Braves' logo on giant light baseball at Truist Park, *photo credit: WorldTraveler\_1/Shutterstock.*

# ENDO2022

## June 11 – 14, 2022

## Georgia World Congress Center Atlanta, Georgia

## Home Away from Home

After a day of exploring all Atlanta has to offer, followed by meals that will fill even the hungriest diner, travelers can rest assured they'll get a good night's sleep at their home away from home. **ENDO 2022's** list of official host hotels offers options for every type of traveler:

- **The Omni Atlanta Hotel at CNN Center** will serve as our headquarters hotel. Southern hospitality meets cosmopolitan elegance at this luxury Four Diamond hotel that offers broad views of the downtown skyline or the nearby Centennial Olympic Park from chic rooms and suites. A true oasis in the center of Atlanta, the hotel features an outdoor pool that is heated seasonally, hot tub, and sun deck, with stunning views of the CNN Center. The hotel's state-of-the-art fitness center features Peloton bikes with on-demand fitness programming.
- **The Glenn Hotel** is a locally owned and operated boutique hotel full of charm, characters, and stories. Guarded by the 39 lions who grace the very top of the building's exterior cornice, Glenn embraces guests with warmth and a well-mannered sense of style. Inspired by the lions, the hotel takes pride in the little gestures and finds strength in bringing people together.
- One of Atlanta's most iconic landmarks rises high above the city — 73 stories to be exact. **The Westin Peachtree Plaza** is a highly recognizable piece of the downtown skyline. The dark steel and glass tower was designed in 1976 by John Portman and still stands as the tallest hotel in the Western Hemisphere. The contemporary design incorporates four floor-to-ceiling window panels in each of the guestrooms and suites. Sweeping views are highlights throughout the hotel including at the ninth floor pool, which has a retractable roof, as well as the revolving, top-floor restaurant, Sun Dial.

More information about these and additional partner hotels for **ENDO 2022** is available online at our Hotel Reservations Portal.

Atlanta is ready and waiting for your visit! Not only is **ENDO 2022** going to be held in a location that has something for everyone, it will provide the first opportunity to connect in person with your colleagues in more than two years. We hope you are convinced you should join us in Atlanta! For more information about our program, registration, abstract submissions, awards, and more, please explore our new **ENDO** site at: [www.endo2022.endocrine.org](http://www.endo2022.endocrine.org).

Our safety policy for in-person attendees at **ENDO 2022** is now available. Please review these guidelines on our **ENDO** site to understand how we are working to keep our attendees safe and the expectations for each meeting participant. **EN**

— CARSON IS A FREELANCE WRITER BASED IN BIRMINGHAM, ALA. SHE REGULARLY CONTRIBUTES THE DASHBOARD AND ENDOGEAR COLUMNS TO *ENDOCRINE NEWS*.

# ENDO 2022 *Offers New Onsite Experiences to Bring Attendees Together*

Our first hybrid **ENDO 2022** includes enhanced experiences for attendees from in-person networking events to new opportunities for endocrine scientists that you surely will not want to miss. Our team is working hard to make sure this **ENDO** is the best one yet and is dedicated to revamping the experience to include in-person features to bring people together after years at home.

**A few of the noteworthy new experiences at ENDO 2022 include:**

## Digital Poster Pods

A new and improved addition to **ENDO 2022** and a big step up from the traditional poster experience. Attendees can browse through all the posters virtually at any time and search for the topics that interest them the most in pods throughout the **ENDO Expo**. The Digital Poster Pods will also include daily Rapid-fire Poster Presentations where top-scoring submitters will give short, in-person talks highlighting the key points of their research and answer questions from interested attendees.

“This is a great new innovation that we are experimenting with this year. All posters will be available in an electronic format that can be accessed from digital poster pods that will be present throughout the Expo floor as well as in the basic science meeting area,” says Stephen R. Hammes, PhD, MD, chair of the Annual Meeting Steering Committee. “This way, in addition to discovering and reading posters on the specific days on which they are assigned to be presented, attendees can pull them up at any time during the meeting. For example, if a trainee or really any researcher is interested in steroid hormone signaling and wants to show me their latest poster, all we have to do is walk to an open poster viewing site and take a look together!”

## Basic Science Pavilion

The Basic Science Pavilion is an area designed specifically for basic scientists that includes sessions on basic science topics and a social lounge to give our scientists a place to discuss their research and build relationships with other experts in the field.

“The basic science pavilion will provide a dedicated location at **ENDO 2022** for basic science programming, networking, and



CNN Center world headquarters and Omni Hotel buildings in downtown Atlanta, photo credit: Andriy Blokhin/Shutterstock.

social events,” says Scott Dehm, PhD, Basic Science Chair of the Annual Meeting Steering Committee. “This will enhance the ‘meeting within a meeting’ experience for attendees with basic science interests, especially those that align with the four basic science pathways of nuclear receptors and signaling; reproductive endocrinology; diabetes and metabolism; and neuroendocrinology.”

## All-Attendee Social

This in-person, happy hour-style gathering for all **ENDO** attendees will take place on Sunday June 12, from 5 p.m. to 6:30 p.m. at the **ENDO Expo**. This is a fantastic opportunity for attendees and exhibitors to connect after years of virtual meetings.

“It has been three years since the last in-person **ENDO**, and we know that everybody, from clinicians to educators to researchers, is itching to see each other again,” Hammes says. “The All-Attendee Social will give everybody a chance to meet in an informal, non-structured event that does not coincide with any major meeting sessions. This is an opportunity to socialize and catch up after three years of nothing but Zoom calls and meetings attended in our home offices.”

Other new experiences at this year’s meeting include the Communications & Career Center, which is a hub for event news and professional growth and an invite-only reception for members of our Special Interest Groups. All these experiences minus the receptions will have a virtual component for those joining remotely.

Register today for **ENDO 2022**, and enjoy these new and improved experiences!

– Colleen Williams

# ENDO2022

# Virtual REALITY



Making the Most of  
Your Online **ENDO 2022** Attendance



**ENDO 2022** attendees will have the option to attend in person in Atlanta, Ga., or tune in online. To make your virtual attendance go as smoothly as possible, *Endocrine News* reached out to previous virtual attendees to get their tips on how to make the most of your online experience.



BY CHERYL ALKON



**W**hen **ENDO 2022** gets under way from June 11 to 14, attendees will have the option to attend in person at the Georgia World Conference Center in Atlanta, Ga., or they can log on and attend online.

Due to the hybrid nature of this year's event, the live program will have more than 100 sessions open to both in-person and online attendees, while more than 200 hours of those sessions will be recorded so that they can be seen later via on demand. Another 50 sessions will be offered in-person only.

After two years of pandemic protocol, you're likely already used to going to meetings and other events online. While there will be the chance to run into friends, old and new, if you make the trip to Atlanta, you won't miss out on the multi-faceted programming the Endocrine Society has created if you prefer to attend **ENDO 2022** from the comforts of your home or office (or home office). To that end, we've decided to offer up some "best practices" on how you can make the most of your virtual experience.

"This flexibility of a virtual meeting is key for people to be able to structure their learning in their own time for what works for them," says Lauren Fishbein, MD, PhD, MTR, the Clinical Science Chair of the Endocrine Society's Annual Meeting Steering Committee for **ENDO 2022** as well as an associate professor of medicine at the University of Colorado School of Medicine, Aurora, Colo.

For Jacob Less, BS, a quality improvement coordinator in the Endocrinology, Gerontology, and Metabolism Division at Stanford University School of Medicine, Stanford, Calif., last year's all-virtual **ENDO 2021** conference was his first professional conference. "As a lifelong learner, taking my time to learn about specific topics with pre-recorded sessions was a meaningful way to engage in topics I have developed passions for," he says.

How to best experience the virtual aspects of **ENDO 2022**?

## Tip 1: Block Out Time

Look at the conference lineup, identify which parts you want to attend, and clear your schedule so nothing will distract you. When she attended the all-virtual **ENDO 2021**, Fishbein

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As a lifelong learner, taking my time to learn about specific topics with pre-recorded sessions was a meaningful way to engage in topics I have developed passions for.”

— JACOB LESS, BS, QUALITY IMPROVEMENT COORDINATOR, ENDOCRINOLOGY, GERONTOLOGY, AND METABOLISM DIVISION, STANFORD UNIVERSITY SCHOOL OF MEDICINE, STANFORD, CALIF.

blocked her calendar as she would for any in-person meeting. "I enjoyed having that dedicated time to focus on learning, while also wearing comfortable clothes and no dress shoes while sitting on the couch," she says. Similarly, some events may happen in real time, and some you may need to watch later on demand.

## Tip 2: Explore the Platform

Learn how the conference software works and how you can use it to your advantage.

At **ENDO 2021**, with simultaneous sessions, "the virtual platform allowed me to watch one session live and the other recorded later on so that I didn't miss anything," Fishbein says.

The browser for that conference "looked like an expansive hall of a convention center," Less says of his **ENDO 2021** virtual attendance. "I was able to easily make my schedule, filter sessions by my time zone, and find the posters and abstracts from the topics in my similar field. I also liked how I could visit virtual booths, leave my card, and see the cards and information that other visitors left. The poster and abstract virtual platforms, where I got to track the metrics of visitors and see the comments they made, were inspirational to someone like me early in my career."

## Tip 3: Interact with Others

Despite being virtual, it is still possible and encouraged to talk and network with others. When he registered for **ENDO 2021**,

“The flexibility of a virtual meeting is key for people to be able to **structure their learning in their own time for what works for them.**”

— LAUREN FISHBEIN, MD, PHD, MTR, ASSOCIATE PROFESSOR OF MEDICINE, UNIVERSITY OF COLORADO SCHOOL OF MEDICINE, AURORA, COLO.

Less was worried that by attending a virtual conference, “I wouldn’t see any other members, and it would be myself in front of a screen,” he says. “However, following the social media for the Endocrine Society, and attending the live sessions, I forgot I wasn’t in person at some times. Many attendees showed their conference setups, Tweeted session recaps and insights, and engaged in chat boxes during various talks.”


Another way to interact with others is to “set up virtual meetings with colleagues to discuss research collaborations or ask questions about clinical cases,” Fishbein says.

#### Tip 4: Use Social Media to Find Virtual Content

Following the #ENDO2022 hashtag on social media is another way to see conference happenings.

This is especially helpful to those attendees who are in different time zones from the conference location or who don’t have the luxury to block out their calendars in real time, Fishbein says.

Following social media, along with using virtual meetings and leaving messages on virtual poster boards, all help connect people wherever they are. “When you can’t attend virtually in real time, some may still choose to block off times to focus on multiple recorded sessions in a row,” Fishbein says. “Others may choose to listen to one session at a time even while exercising, taking a walk, or driving to work. The flexibility of a virtual meeting is key for people to be able to structure their learning in their own time for what works for them.”

All these things, she adds, will allow for attendees to feel immersed in the Endocrine Society community. And making the effort to get the most out of the virtual conference experience, says Less, “is worth it.” 

## ENDO2022

### Registration Is Now Open!

#### *What Programming Is Included in My Virtual Meeting Registration?*

As you build your schedule during the conference, you can select the sessions that are tagged with “livestreamed,” which are available in real time to the virtual audience.

In addition, in-person and livestreamed sessions will be recorded, so you can access them on demand after 72 hours. Over 200 hours of session recordings will be available on demand for Standard and Premium pass registrants. In addition, product theaters and the Communications & Career Center will also include hybrid delivery.

**Please Note:** *Attendees that register for virtual programming also have the opportunity to upgrade their registration to an in-person option through the registration portal.*

#### Virtual Meeting Premium Registration Fees

Include:

- ENDO 2022 virtual meeting registration
- Meet the Professor learning resource
- Extended access to ENDO 2022 session recordings through December 31, 2022

<https://endo2022.endocrine.org/Registration>

— ALKON IS A MASSACHUSETTS-BASED FREELANCE WRITER WHO IS THE AUTHOR OF THE BOOK, *BALANCING PREGNANCY WITH PRE-EXISTING DIABETES: HEALTHY MOM, HEALTHY BABY*. SHE WROTE ABOUT GETTING A JOB IN ACADEMIA IN THE SEPTEMBER 2021 ISSUE.

## Final Fiscal Year 2022 Appropriations Legislation Passed with Increase for NIH, CDC, and Other Programs

**F**ollowing intense negotiations, in March the House and Senate finally passed an appropriations package that funded the federal government for Fiscal Year (FY) 2022, which technically began October 1, 2021.

The \$1.5-trillion package received bipartisan support and follows months of advocacy by the Endocrine Society with increased funding for our priorities. The bill includes several important wins for Endocrine Society members, starting with the fact that it is a final appropriations bill with increases rather than relying on flat funding through short-term stopgap measures. The legislation included several increases, such as an increase of 7%, an additional \$582 million, for the Centers for Disease Control and Prevention (CDC) and an



additional \$2.25 billion, or 5% increase for the National Institutes of Health (NIH). The bill also provides \$1 billion to launch the Advanced Research Projects Agency for Health (ARPA-H), a new agency modeled after the Defense Advanced Research Projects Agency (DARPA) and charged with developing high-risk/high-reward research programs.

The legislation also takes steps to address telehealth reform, which is a key priority for the Society. The bill included a five-month extension of Medicare telehealth waivers that would go into effect after the COVID-19 public health emergency (PHE) ends. Additionally, the legislation would reinstate policy that allows pre-deductible coverage of telehealth services in high-deductible health plans with health savings accounts through January 1, 2023. The bill includes language that encourages the Centers for Medicare and Medicaid Services (CMS) to review the data collected on audio-only services delivered during the PHE and provide a report on the evidence collected and recommendations to inform future policy on delivering audio-only telehealth. The Endocrine Society strongly advocated for this report language last year. Our members recommended this language during our physician-focused Hill Day, and we also launched an advocacy campaign urging Congress to include this language.

The Endocrine Society sincerely appreciates the bicameral, bipartisan negotiations that achieved this result and avoids further continuing resolutions that are extremely disruptive to the biomedical research enterprise and other federal programs. We also support the appropriators' request that each Institute and Center at the NIH receive at least a ~3.4% increase, in addition to an increase of \$8 million for the Office of Research on Women's Health at the NIH. However, we note that the final appropriation for the



NIH and other public health programs falls short of earlier proposals in the House, Senate, and President's Budget, and comes in below our recommended level for the NIH, the CDC, and Title X. Title X, for instance, is flat funded in the omnibus at \$286.5 million despite proposed increases from the House.

The final bill also did not include an earlier proposal to provide \$100 million to the National Institutes of Environmental Health Sciences (NIEHS) for research on climate change and health. Furthermore, as this article went to press, the final fate of ARPA-H remains somewhat unresolved. Congressional authorizers are still debating whether to house the new agency within the NIH or elsewhere within the Department of Health

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**The Endocrine Society sincerely appreciates the bicameral, bipartisan negotiations that achieved this result and avoids further continuing resolutions that are extremely disruptive to the biomedical research enterprise and other federal programs.**

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and Human Services. Finally, while the five-month extension of telehealth waivers will ensure that telehealth reimbursement will not end abruptly after the public health emergency ends, more work will need to be done to pass permanent Medicare telehealth reform.

With inflation expected to blunt the impact of these funding increases, our attention now turns to advocating for adequate funding in FY 2023 to continue our recommended long-term trajectory of “steady, sustainable increases” in funding for critical public health and research programs. The Endocrine Society is working with other stakeholders to determine our federal funding recommendations, and members should look out for opportunities to contact their representatives as offices quickly pivot to the debate for the next year.



## Endocrine Society Speaks Out Against Texas Governor's Anti-Transgender Directive

**O**n Monday, February 21, the Texas attorney general issued a nonbinding legal opinion arguing that gender-affirming care falls under the state's existing definition of child abuse and neglect. Following this, Texas Governor Greg Abbott released a directive ordering the Texas Department of Family and Protective Services (DFPS) to conduct investigations of any reported instances of Texas children being “subjected to abusive gender-transitioning procedures.” The governor's directive cites the AG's opinion and also states that mandated reporters in Texas, have a legal duty to report instances of gender-affirming care under the state's existing child abuse and neglect reporting law.

The governor's directive, as well as previous statements made by the Texas attorney general, reflect the continuous and widespread misinformation about gender-affirming care. Furthermore, it rejects evidence-based transgender medical care and will restrict access to care for teenagers experiencing gender incongruence or dysphoria.

In response, the Endocrine Society condemned Governor Abbott's directive and called upon him to rescind this harmful

policy. The ACLU and Lambda Legal also moved quickly to file a lawsuit against the state of Texas and Governor Abbott and his recent directive. The Endocrine Society has joined as a “friend of the court” or “amicus” along with the American Academy of Pediatrics, American Psychological Association, and other organizations to provide the court with background


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**We encourage our members to use our transgender advocacy resources and stand firm by our members in Texas that continue to provide gender-affirming care to their patients based on medical evidence, not politics.**

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on gender-affirming care and puberty delaying medication. The Endocrine Society’s clinical practice guideline on gender dysphoria/incongruence, which is viewed as the standard of care, is highly cited.

On March 11, the district court judge granted a statewide injunction on the governor’s order, ceasing any and all investigations into transgender youth, their families, and healthcare providers who provide gender-affirming care. The injunction runs through July to provide time for the court to rule on the case.

We continue to monitor the situation in Texas and work with other groups such as the American Medical Association, American Academy of Pediatrics, American Psychological Association, the Pediatric Endocrine Society, and ACLU on reversing this policy. We encourage our members to use our transgender advocacy resources and stand firm by our members in Texas that continue to provide gender-affirming care to their patients based on medical evidence, not politics. 

## DID YOU MISS ENDO 2021?



### DO NOT WORRY!

You can still access our library of sessions covering the most significant breakthroughs in hormone science and health shared at ENDO 2021. Obtain access today and earn up to 110 AMA PRA Category 1 Credits™.

[endocrine.org/store](https://endocrine.org/store)