CEU ISSUE 2109

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

# Endocrine news

# CEU COAST TO COAST

## Seattle & Miami Are Hosting 2019 Clinical Endocrinology Update

- **DIABETES ON A BUDGET:** As newer insulins get more expensive, older medications are getting a second look.
- **GRAVES' ANATOMY:** A detailed analysis of the different treatment protocols of Graves' hyperthyroidism from the U.S. to Europe.
- **DEBATING HRT:** Two clinicians present compelling treatment methods for hormone replacement therapy in postmenopausal patients.
- **TESTOSTERONE TACTICS:** An in-depth look at the benefits and drawbacks of a variety of testosterone therapies for patients with hypogonadism.

**Q&AS WITH:**

**Marc-Andre Cornier, MD**
**Chair, CEU Steering Committee**

**Serge Jabbour, MD**
**Chair, Endocrine Board Review**

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*Hormone Science to Health*

# CEU
CLINICAL ENDOCRINOLOGY UPDATE
# 2019

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The constant evolution of clinical endocrinology practice requires that endocrinologists need to evolve as well. The Endocrine Society's Clinical Endocrinology Update (CEU) is once again taking place on each coast this year, giving clinicians a choice of where and when to attend.

**BY COURTNEY CARSON**



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# Expand Your Horizons at CEU

> This meeting offers the opportunity for clinicians to learn about the latest advances directly from the field's brightest minds, and its intimate setting makes it easy to absorb updates in diagnosis and treatment of endocrine conditions.

As endocrinologists, we are united in one goal of providing the highest quality of care for all our patients. We understand how overwhelming it can be to keep up with best practices in addition to the latest developments in diagnosis and treatments, which is why we are proud to offer the Clinical Endocrinology Update (CEU). This meeting offers the opportunity for clinicians to learn about the latest advances directly from the field's brightest minds, and its intimate setting makes it easy to absorb updates in diagnosis and treatment of endocrine conditions.

Throughout this three-day meeting, our expert speakers will share emerging developments in bone and mineral disorders; obesity; reproductive endocrinology; and diabetes, adrenal, pituitary, and thyroid health. Attendees will get a front row seat as renowned faculty deliver case-based Meet-the-Professor sessions, debate the pros and cons of various treatment options, and participate in lively panel discussions. The comprehensive program's focus on case-based learning will help you apply your knowledge to real-life scenarios.

CEU will once again be held in two locations to make it more convenient for you to attend. You can expand your clinical knowledge in either Miami, Fla., on September 5 – 7, or in Seattle, Wash., on September 19 – 21; the Seattle meeting will be held in conjunction with our Endocrine Board Review (EBR), which takes place September 17 – 18.

This special *Endocrine News* edition gives you a sneak peek at CEU highlights and offers tips for making the most of your meeting experience.

As the professional home for endocrine clinicians and scientists, we want to ensure you have all the resources you need to deliver stellar patient care. We hope you will join us for what promises to be an outstanding program.

I look forward to seeing you in Miami or Seattle! EN

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

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# Clinical Endocrinology Update Goes Bicoastal for a Second Year

After the success of last year's special issue to promote and highlight the Endocrine Society's Clinical Endocrinology Update (CEU) program, we decided to make it an annual tradition. For the second year in a row, CEU will take place twice in September on both the East and West Coasts — Sept. 5 – 7 in Miami, Fla., and Sept. 19 – 21 in Seattle, Wash. Also taking place in Seattle is the annual Endocrine Board Review being held immediately prior to CEU on Sept. 17th and 18th.

Once again, it is our hope that this special issue of *Endocrine News* will entice you to attend one of these conferences. Clinicians who have attended CEUs in the past have raved about the intimate setting.

If you're not convinced about what all the CEU programs have to offer, just start flipping through this issue; we've not only included a few selected highlights from the sessions, but we've also included highlights of the destinations, as well as Q&As with the committee chairs of both CEU programs, Marc-Andre Cornier, MD (p. 12), and the Endocrine Board Review faculty chair, Serge Jabbour, MD (p. 38).

With so many great sessions and faculty, it was truly difficult to pick which ones to highlight in this issue, but somehow we managed to winnow it down to how to optimize testosterone therapy in individual patients (p. 16), menopausal hormone replacement therapy debate (p. 22), diabetes on a budget (p. 28), and treating Graves' hyperthyroidism (p. 32).

**EBR (14.25 POINTS), CEU MIAMI (21.5 POINTS), and CEU SEATTLE (20.75 POINTS) are certified for both *AMA PRA Category 1 Credit(s)™* and ABIM MOC points.**

**Save money when you register for both Endocrine Board Review and Clinical Endocrinology Update in Seattle.**

SPECIAL CEU ISSUE 2019

Endocrine news

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If you still can't decide which CEU to attend, we have a travelogue on page 42 by Courtney Carson that may help you make up your mind. In "CEU Coast to Coast," there are plenty of reasons to venture to Seattle or Miami this September with a number of attractions to experience as well as plenty of places to wine and dine after the day has ended. Those days at CEU are long and intense so you will definitely want to make the most of your down time. And, if your family wants to go with you, why not extend your trip by a few days?

"Those days at CEU are long and intense so you will definitely want to make the most of your down time. And, if your family wants to go with you, why not extend your trip by a few days?"

So, register for the CEU program of your choice today; early bird rates are in effect until August 1st for both Miami and Seattle: **www.endocrine.org/ceu**.

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

**Once again, the CEU program is doing "double duty" in 2019 with meetings in Miami, Fla., and Seattle, Wash., in September. *Endocrine News* asked CEU Steering Committee chair Marc-Andre Cornier, MD, about how this year's ambitious program came together.**

# *Q&A:*

## Marc-Andre Cornier, MD, Chair, Clinical Endocrinology Steering Committee

Every year, the Endocrine Society holds the Clinical Endocrinology Update (CEU), bringing together hundreds of endocrine clinicians for a unique learning experience and opportunities to network with expert faculty and colleagues.

For the second year in a row, the Endocrine Society will be hosting two CEUs, one in Miami, Fla., from September 5th to 7th, and another in Seattle, Wash., from September 19th to 21st, giving practicing clinicians two opportunities to partake in CEU.

*Endocrine News* caught up with the CEU Steering Committee chair, Marc-Andre Cornier, MD, medical director of the University of Colorado Anschutz Health and Wellness Center, director of the LDL Apheresis Program at University of Colorado Hospital, and Medical Director of the My New Weight weight loss program, to get his thoughts on why CEU is so vital to all clinicians regardless of how many years they have been in practice as well as the sessions he's looking forward to the most.

**ENDOCRINE NEWS:** What has the experience been like for you taking the reins as the chair of the CEU Steering Committee?

**CEU East**
Will take place in Miami at the InterContinental Miami September 5 – 7.

**CEU West**
Will be held in Seattle at the Hyatt Regency Seattle September 19 – 21. CEU West will take place immediately after the Endocrine Society's 2019 Endocrine Board Review in Seattle at the same venue September 17 – 18.

**CEU 2019 is certified for both *AMA PRA Category 1 Credit(s)* and ABIM MOC points: 21.5 credits in Miami and 20.75 in Seattle.**

**MARC-ANDRE CORNIER:** This has been a seamless and very positive experience. The Endocrine Society staff have been outstanding, and I want to give thanks to Whitney Goldner for her help in this transition as well. Furthermore, the members of the committee have been outstanding in terms of developing a superb agenda and being very responsive to our deadlines.

**EN:** Who is the target audience for CEU?

**MAC:** The CEU meetings target all endocrinologists but are especially focused on the clinical management of all endocrine disorders.

**EN:** In looking at the program, there seems to be an outstanding variety of topics covered in such a short period of time. Are there any sessions you are especially excited about this year?

**MAC:** I agree, the program is absolutely outstanding and diverse. Kudos again to the committee and staff for putting this together. There isn't a session that I'm not excited about but would highlight: "Helping Patients Find Motivation for Lifestyle Change," "Controversies in the Treatment of Women with Menopausal Hormones," "Revisiting Old Drugs for Type 2

> “The program is absolutely outstanding and diverse...**CEU has so much more to offer including a great forum for networking with other colleagues and building new collaborations.”**

Diabetes” and “Diabetes on a Budget,” “Risk Stratification in Thyroid Cancer,” and so many others.

**EN:** How difficult was it in planning this year’s program, considering there are so many subjects presented by so many experts from around the world?

**MAC:** You are right, it is certainly a lot of work. I’m not going to say it was easy putting the program together because the Steering Committee did all of the work; it was just easy for me, as they did such a great job.

**EN:** Beyond an excellent educational program, what else can attendees expect to encounter while they’re at CEU?

**MAC:** Yes, obviously the most important is the educational value from the plenary and Meet-the-Professor sessions. CEU has so much more to offer including a great forum for networking with other colleagues and building new collaborations. In addition, EBR 2019 will take place in conjunction with the CEU meeting in Seattle. EN

**The Clinical Endocrinology Update Steering Committee comprises Endocrine Society members who are clinicians and clinical researchers. Together, their expertise covers the spectrum of endocrine diseases and disorders.**

**CEU Chair:**

Marc-Andre Cornier, MD;
*University of Colorado School of Medicine*

**Committee Members:**

Richard A. Bebb, MD;
*University of British Columbia*

Daniel H. Bessesen, MD;
*University of Colorado School of Medicine*

Sigridur Bjornsdottir, MD, PhD;
*Karolinska Institute*

Serena Cardillo, MD;
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*Universidade Federal do Rio de Janeiro*

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*University of Nebraska Medical Center*

Tim Korevaar, MD, PhD;
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*University of Colorado Denver*

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# Optimizing TESTOSTERONE THERAPY *for the Individual Patient*

By now, the controversy surrounding testosterone therapy and the shady advertising schemes promulgating the idea of "andropause" in aging men in order to sell more product is well documented. Putting such controversy aside for a moment, an upcoming Clinical Endocrinology Update (CEU) session will home in on another aspect of testosterone therapy — how best to prescribe it.

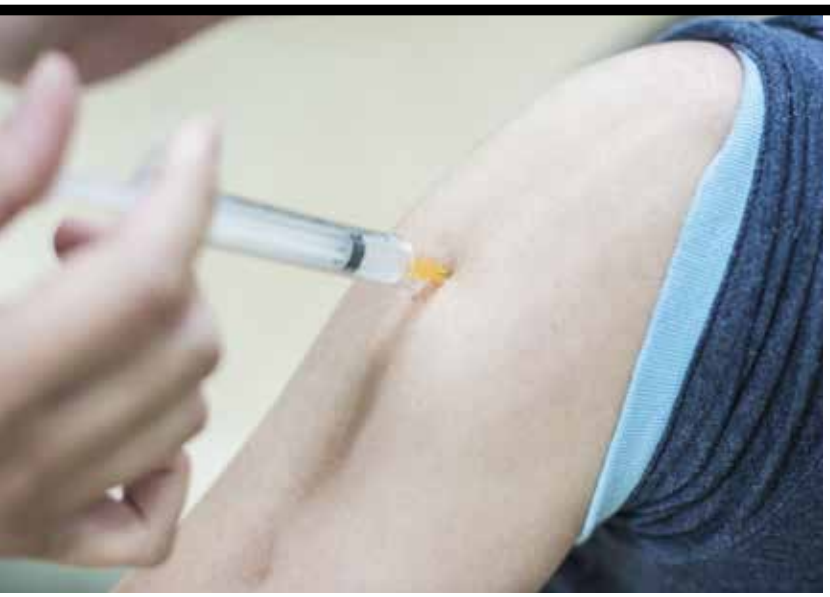
"In my talk, I will be discussing various testosterone formulations that are available," explains Shehzad Sultan Basaria, MD, of the Brigham and Women's Hospital in Boston, Mass. "I'm going to go over pros and cons of these formulations for the audience of clinicians. I will also discuss when to measure serum testosterone levels based on the formulations that the patients are using." Basaria will moderate the session "Testosterone Replacement Modalities: Pros, Cons, and Their Correct Use" in both Miami, Fla. and Seattle, Wash.

**BY KELLY HORVATH**

**In his talk, "Testosterone Replacement Modalities: Pros, Cons, and Their Correct Use," Shehzad Sultan Basaria, MD, will discuss the benefits and drawbacks of various forms of treatments so clinicians can better inform their patients with hypogonadism.**

**“Because the same hormone is being administered by different means, an endocrinologist should be able to titrate the dose of any formulation of testosterone to ensure the levels achieved are physiologic, although sometimes it can be a challenge.”**

— SHEHZAD SULTAN BASARIA, MD, BRIGHAM AND WOMEN’S HOSPITAL, BOSTON, MASSACHUSETTS




**From injections to gels, different testosterone formulations all have various positive and negative attributes, which will all be covered in this session.**

## Talking About Testosterone

Despite some of the findings to have emerged from the recent Testosterone Trials over the last few years as well as the continued uncertainty about the risks and benefits of testosterone therapy, the fact remains that many men with low testosterone levels seek treatment. According to “Testosterone Therapy in Men with Hypogonadism: An Endocrine Society Clinical Practice Guideline,” published in March 2018 in *The Journal of Clinical Endocrinology & Metabolism*, men should be diagnosed with hypogonadism when they exhibit specific signs and symptoms of androgen deficiency and “unequivocally and consistently” low serum testosterone by a validated test.

“The Testosterone Trial published in 2015 was an efficacy trial; there are other trials that have evaluated benefits as well as risks,” Basaria says. “But my talk will not address these aspects; it will be focused on

### MIAMI

“Testosterone Replacement Modalities: Pros, Cons, and Their Correct Use” will be presented 2:55 – 3:25 PM on Thursday, September 5, 2019.

### SEATTLE

“Testosterone Replacement Modalities: Pros, Cons, and Their Correct Use” will be presented 2:55 – 3:25 PM on Thursday, September 19, 2019.


**A simple blood test is the first step to determine testosterone levels.**

various formulations available. It is important to understand that, although each formulation has its own specific advantages and disadvantages, the benefits and risks of testosterone replacement are a product of testosterone itself. Because the same hormone is being administered by different means, an endocrinologist should be able to titrate the dose of any formulation of testosterone to ensure the levels achieved are physiologic, although sometimes it can be a challenge," he says.

So, while the debate over risks and benefits continues in the background, let's get a preview of how to arrive at optimal prescribing practice for those men who warrant treatment. Many factors go into this decision-making process, and no two patients will look exactly alike.

Basaria explains that his upcoming talk is the product of various papers published over the past six decades and the data that has accumulated on the different testosterone formulations, from the injections that came out in the mid 1900s, to the transdermal patches and gels now also available, to newer formulations such as intranasal gels, buccal tablets, and pellet implants. Basaria will walk through this dizzying array of offerings and discuss their various positive and negative attributes, how to use them, and when the patient should use the formulation — such as whether to apply a gel or patch at night or during the day or when during the day to use another type of formulation. Importantly, he will also be talking about post-prescribing monitoring.

"Based on the formulation a patient has been prescribed, what is the ideal time to check on treatment serum testosterone concentrations so that dose adjustments can be made?" Basaria says. "For example, if a patient is on weekly testosterone injections, the best time to check testosterone is midpoint between the injections. If he is taking testosterone patches that are applied at nighttime, the best time to measure testosterone is three to 10 hours after application of the patch. If he is taking testosterone gel, his levels can be checked at any time after one week of treatment. Different formulations have different schedules of measurement of testosterone, so I will be talking about those things as well," he says.

## AT A GLANCE

- **For clinicians to determine the optimal course of testosterone therapy for their patients, they require a thorough understanding of the available formulations, including oral, buccal, intranasal, transdermal, topical, intramuscular, and subcutaneous administration routes.**
- **This session will discuss the pros and cons of the various formulations available so that endocrinologists can better inform their patients with hypogonadism.**
- **This talk will focus on how to optimize testosterone treatment based on available modalities.**

**Popular in the U.S., testosterone gels are easy to apply, but the levels they deliver are somewhat less predictable.**

> **"It is important to understand that, although each formulation has its own specific advantages and disadvantages, the benefits and risks of testosterone replacement are a product of testosterone itself."**
>
> — SHEHZAD S. BASARIA, MD, BRIGHAM AND WOMEN'S HOSPITAL, BOSTON, MASSACHUSETTS

## Pros and Cons

Globally, intramuscular injections are the most widely used formulation of testosterone. They are also the oldest and therefore the most time-tested formulation. "For injections, the advantages include predictable on-treatment levels of testosterone. If a patient uses weekly injections, that will result in physiologic levels of testosterone. But, to avoid the weekly needlestick, patients and clinicians usually opt for a higher dose, which is given twice a month."

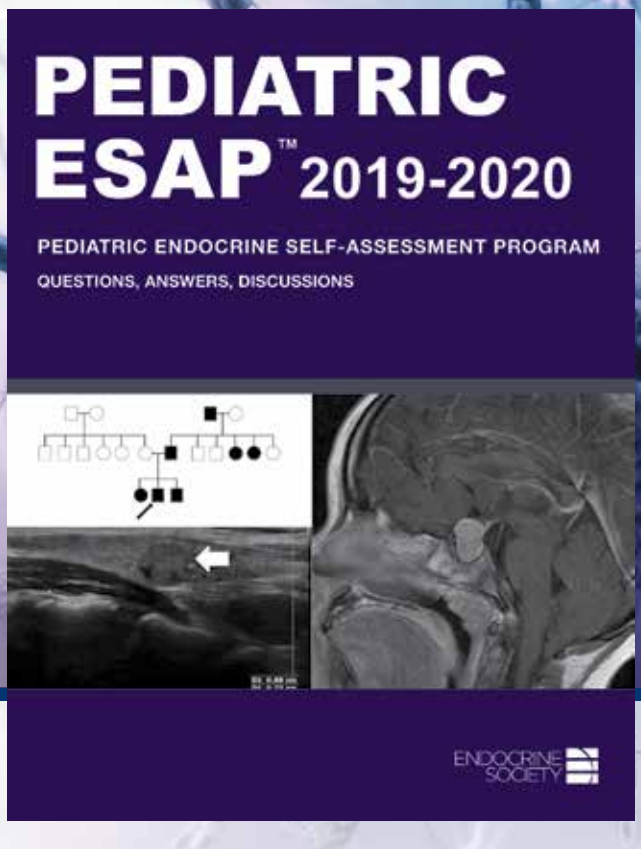
The con, however, is that this less-frequent dosing results in peaks and valleys in serum testosterone concentrations. The weekly smaller dose, despite the inconvenience, yields more even levels. "It is also inexpensive," Basaria adds. "For the many patients who do not have insurance or have limited coverage, injections are one formulation that they can afford."

Regarding patches, Basaria reports that they, too, provide predictable levels of serum testosterone. "The con," he says, "is that a sizable number of patients will complain of skin irritation where the patch has been applied."

A popular formulation in the U.S., testosterone gels have the advantage of being convenient and easy to apply. On the other hand, the levels they deliver are comparatively less predictable. "The other con is the need to take certain precautions when using the gel," Basaria says. "For example, the site of application must be covered after applying the gel because there have been cases of transmission of the gel to children."

Basaria will go over advantages and disadvantages of the less commonly used formulations of testosterone in his talk as well. EN

—HORVATH IS A FREELANCER WRITER BASED IN BALTIMORE, MD. SHE WROTE ABOUT THE LINK BETWEEN OBESITY AND PRECOCIOUS PUBERTY IN BOYS IN THE JULY ISSUE.

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# DEBATING Menopausal Hormone Therapy

**In what promises to be a lively debate on both coasts, Margaret E. Wierman, MD, and Cynthia A. Stuenkel, MD, will use case-based examples to discuss hormone replacement therapy. Each will present their clinical approaches for a variety of patients and explain the reasons behind their choices.**

BY KELLY HORVATH

**Cynthia A. Stuenkel, MD**
**Clinical Professor of Medicine, University of California, San Diego**

**Margaret E. Wierman, MD**
**Professor of Medicine, Integrative Physiology, and OBGYN, University of Colorado, Denver**

The publication in 2002 of some of the initial findings from the Women's Health Initiative (WHI) stirred up quite a polemic surrounding menopausal hormone therapy (MHT) for postmenopausal women. What had once been an almost knee-jerk prescribing practice for prevention of diseases of aging, such as heart disease, suddenly became anathema to many in the medical community, and news outlets raced to inform women of the supposed risks uncovered by the WHI.

The storm has abated somewhat, but uncertainties persist. In a Clinical Endocrinology Update (CEU) session called "Controversies in the Treatment of Women with Menopausal Hormone Therapy," Margaret E. Wierman, MD, professor of Medicine, Integrative Physiology and OBGYN at the University of Colorado and chair of the Endocrine Society clinical practice guideline on "Role of Androgens in Women," and Cynthia A. Stuenkel, MD, clinical professor of Medicine at the University of California, San Diego, and chair of the Endocrine Society's clinical practice guideline, "Treatment of the Symptoms of the Menopause," will talk through some of the gray areas to help attendees arrive at better understanding of the issues at stake. Stuenkel recently testified to the National Academies of Science regarding compounded bioidentical hormones at the request of the U.S. Food and Drug Administration (FDA).

"For the past 15 years, some endocrinologists would have said don't give MHT to anyone," Wierman says. "But, when we took a closer look at the data in women given hormones age 50 to 60 years, we saw that MHT was at least neutral and, in some ways, beneficial. Then the pendulum has swung back toward treating symptomatic women." What the WHI did show is that risks can accrue if MHT is started 10 years after menopause and if it is given it to everybody, regardless of individual factors.

## Who, What, When, and What Else?

In their talk, the two endocrinologists will cover four topics relating to HRT. Each will take two and present them as a patient case to the other, eliciting what her clinical opinion and approach would be. This interactive presentation will also include comments and questions from the audience and promises to be dynamic and engaging in addition to illustrative.

Although the cases are not yet lined up — and we wouldn't want to spoil those for the audience, anyway — Wierman and Stuenkel have settled on the general outline of the talk. First, they will discuss the who: What women are eligible for hormone therapy? Stuenkel will present this case and then ask the audience whether or not they would give the patient MHT. From there, she will dive into some relevant literature and go over how to evaluate a patient for MHT, such as assessing her symptoms and determining what other factors to take into consideration. What other kinds of things should the clinician think about? Is hormone therapy appropriate for prevention, for example?

The second area they will explore is the what: Now that the clinician has decided to treat, what formulation of hormone therapy is appropriate for the individual patient, such as oral versus transdermal? What about dosing? Wierman will present this one. Again, the audience will have a chance to weigh in. "Then I'll talk about what we have for data

and where we don't have data about the different kinds of hormone therapy and whether you should or shouldn't give one kind or the other," Wierman says. She'll finish up Case #2 with a discussion on monitoring hormone therapy: How are symptoms responding? Should we be measuring hormone levels?

The when will come next — when and how to discontinue, that is. In her discussion of Case #3, Stuenkel will look at, for example, duration, timing of discontinuation, age, years since menopause, and ways to discontinue, such as abruptly or tapered.

The fourth and final topic of exploration will be testosterone, herbals, and other alternatives for menopausal hormone therapy; what are the related pros and cons? Wierman, having attended the 12th Annual European Congress on Menopause and Andropause in Berlin, Germany in May, will mediate this one.

## A Compound Problem

Wierman says that threaded through each of the four cases, she and Stuenkel will emphasize that the Endocrine Society recommends FDA-approved agents rather than compounded formulations and why.

"First of all, we have bioidentical hormone therapy that has been rigorously studied and approved by the FDA, in the form of estrogen patches and gels as well as Prometrium, which are exactly like what the ovaries would normally produce," Wierman explains. "We have a misperception by the public and some clinicians that if the WHI showed that the FDA-approved compounds at the time of the trials (Premarin and Provera), given continuously caused an increase in breast cancer and heart disease in some women, that compounded formulations are somehow safer. Of course, there really are no data to support that claim. Furthermore, many of the compounded formulations are either in a gel or a cream and have not been studied, so we don't even know if they are getting too much hormone or no hormone in them."

Published in JCEM in 2016, the Endocrine Society scientific statement officially states, "The widespread availability of FDA-approved bioidentical hormones produced in monitored facilities demonstrates a high quality of safety and efficacy in trials; therefore, there is no rationale for the routine prescribing of unregulated, untested, and potentially harmful custom-compounded bioidentical HTs. Clinicians are encouraged to prescribe FDA-approved hormone products according to labeling indications and to avoid custom-compounded hormones."

> "We also have lost a generation of teaching internists and endocrinologists how to give hormone therapy. **Many gynecologists continued to give it, but we need to be better at training endocrinologists on how to give it, monitor it, and discontinue it."**
>
> — MARGARET E. WIERMAN, MD, PROFESSOR OF MEDICINE, INTEGRATIVE PHYSIOLOGY AND OBGYN, UNIVERSITY OF COLORADO, DENVER

## Patient Vignettes

To put it all together, Wierman described some hypothetical patients and whether she would or would not prescribe hormone therapy for each from her practice.

Here's the who: A 51-year-old women stopped having her period six months ago. She's having difficulty sleeping at night with intractable hot flashes, which also occur during the day. She is exhausted at work, she has trouble with painful intercourse and urinary frequency, and she comes to the office asking what to do. Her family history is negative for cardiovascular disease or perimenopausal breast cancer. She has a good diet, exercises, and has a normal body weight.

In this patient, Wierman would consider the pros and cons — she goes over the patient's family history for any risk factors and looks at her personal risk factors (e.g., does she have hypertension or hyperlipidemia?). For this woman, Wierman would prescribe her the lowest dose to control her symptoms, most likely with a transdermal estrogen preparation (the what).

Incidentally, dosing in the WHI was likely higher, and clinicians now aim for the lowest effective dose as a best practice. "And, I personally give cyclic progestin, which will protect her endometrium," Wierman says. "I tend to not give continuous progestin because of potential stimulation to the breast. That is where we might get some disagreement because some clinicians give continuous progestin, so the women don't have to have periods, but I'm concerned about that risk to the breast." This comes back to the WHI. Some women on continuous medroxyprogesterone got breast cancer, but the study was not conclusive for all women.

Concerning the when: "We would taper the dose every six months based on the symptoms," Wierman says. "If she cuts the patch in half, or if she holds off on the patch but still has hot flashes, then we continue. If she doesn't, then we can cut down on the dose."

Compare that scenario with a 62-year-old who went through menopause at 52 and didn't have many symptoms at that time but now has lost 30 pounds and is having occasional hot flashes. She has a family history of postmenopausal breast cancer and a personal history of hyperlipidemia. She asks whether she can start taking MHT now because she heard that it is good for Alzheimer's disease.

"That's the kind of patient that I wouldn't automatically give hormone therapy to, based on the data that suggest that we should give it to symptomatic women at the time of menopause and not afterward," Wierman says. "The data seem to show at the basic science level that estrogen given later after no estrogen destabilizes established vascular plaque and may explain the increased risk of stroke and heart attack. Therefore, if you're going to prescribe it, you need

# AT A GLANCE

- Generally, HRT should be considered for symptomatic, recently postmenopausal women at the lowest dose that will control symptoms, and risks versus benefits must be weighed in each patient individually.
- FDA-approved products that have been studied rigorously for their stability and their dosing are recommended over compounded formulations for which safety data is not available.
- Most authorities recommend discontinuation at some point, although some obstetric and gynecological societies state that may not be necessary, depending on the individual patient.

> “Too much estrogen is bad, and too little is bad. **We have to find the right amount and use it appropriately with minimizing risk. But it shouldn’t be in the water supply!”**
>
> — MARGARET E. WIERMAN, MD, PROFESSOR OF MEDICINE, INTEGRATIVE PHYSIOLOGY AND OBGYN, UNIVERSITY OF COLORADO, DENVER

to do so early and only in women who are symptomatic. Again, you’re discussing the potential benefits and risks in the individual patient in your office.”

## Bottom Lines

It all comes down to: Treat symptoms with the lowest effective dose and then weigh risks versus benefits for long-term use in the individual patient, potentially progressively tapering the dose as the woman ages to decrease symptom activation. Some women may need it for only six months, others for 10 years; however, the data show that short-term risks are much lower than the longer-term risks, so tapering with the likely goal of discontinuation is recommended.

Amid some controversy, some societies suggest that discontinuation is not necessary for all women. “The thing that’s interesting from the big picture is that after the WHI, there was such a move away from giving MHT. A whole generation of women had to deal with menopausal symptoms and all the complications with no one to turn to or very few prescribers,” Wierman says. “We also have lost a generation of teaching internists and endocrinologists how to give hormone therapy. Many gynecologists continued to give it, but we need to be better at training endocrinologists on how to give it, monitor it, and discontinue it.”

Wierman says here again it’s important to figure out in different populations what the risk/benefit ratio is: “Too much estrogen is bad, and too little is bad. We have to find the right amount and use it appropriately with minimizing risk,” she says. “But it shouldn’t be in the water supply!” EN

—HORVATH IS A FREELANCE WRITER BASED IN BALTIMORE, MD. SHE WROTE ABOUT THE LINK BETWEEN OBESITY AND PRECOCIOUS PUBERTY IN BOYS IN THE JULY ISSUE.

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# ENDO 2019 SESSION RECORDINGS

## MOST VIEWED SESSIONS FROM ENDO 2019

1. Pharmacological Management of Osteoporosis in Post-Menopausal Women: An Endocrine Society Clinical Practice Guideline
2. Presidential Plenary: Whole Genome Approaches to Unraveling Diseases
3. Update on Clinical Assay Issues: What Clinicians Should Know
4. Treatment of Diabetes in Older Adults: An Endocrine Society Clinical Practice Guideline
5. Congenital Adrenal Hyperplasia Due to Steroid 21-hydroxylase Deficiency: An Endocrine Society Clinical Practice Guideline
6. HbA1c Target in Diabetes: A Debate
7. Utilizing Big Data in Science and Clinical Care
8. Managing the Post-Bariatric Patient: Hypoglycemia, Changes in Beta-Cell Function, and Beyond
9. Fracture Risk Assessment Beyond BMD and FRAX
10. Pheochromocytoma and Paraganglioma: Perioperative, Management, Surveillance, and New Imaging Modalities

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ENDOCRINE SOCIETY

# DIABETES ON A BUDGET

The advent of newer — often very expensive — drugs has driven up the cost of care for diabetes. But older, less expensive medications can often still get the job done.

BY ERIC SEABORG

Treating diabetes with lower-cost drugs might not only help a patient's pocketbook, they might benefit the patient's health as well.

That will be one important message of the Meet-the-Professor session on "Diabetes on a Budget" at the Clinical Endocrinology Update in Miami by David M. Nathan, MD, director of the diabetes center at Massachusetts General Hospital in Boston. A session with the same title will be presented at CEU Seattle by Marie E. McDonnell, MD, of Brigham and Women's Hospital in Boston.

Newer and more expensive drugs have become "all the rage" in diabetes treatment, but a closer look reveals they may not be worth the cost. "These drugs are for the most part marginally better than some of the older, less expensive drugs, and they carry risks and costs, including financial costs," Nathan says. "Every drug has advantages and disadvantages, and we must weigh the balance between the benefits and costs."

In a time of rising drug costs, "if we are going to prescribe medicines, it is our responsibility to pay attention to the cost for the patient, because that is strongly linked to whether they actually take the medicine," Nathan says.

## Insulins, New and Old

With many reports of patients rationing insulin, the kind of insulin that physicians prescribe has become a focus. Newer and much more expensive insulin formulations have come on the market since the turn of the century. The insulin analogs were generally developed to treat type 1 diabetes, for which they work well. "Type 1 diabetes requires us to give insulin in a way that is as physiologic as possible, including using tools like insulin pumps and continuous glucose monitoring, and this is one area where the newer insulin analogs are better," Nathan says.

But many physicians are prescribing them for type 2 diabetes, which can be problematic. One needs to look beyond the advertising claims and examine the studies comparing them, Nathan says.

For example, the oldest basal insulin on the market is NPH. It does lead to a peak level and is not perfect, but studies have found no clinically important difference compared with newer, more expensive formulations such as glargine. "Severe hypoglycemia — defined as episodes that require assistance from another person — remains rare in type 2 diabetes," Nathan says. "The difference between NPH and glargine regarding severe hypoglycemia is close to zero, the total frequency of hypoglycemic events is not very different, and hemoglobin A1c levels are lowered similarly."

There are fewer incidents of hypoglycemia overnight with glargine, but the "total frequency of hypoglycemic events is actually not very different than with NPH, so that means people are having more hypoglycemia during the daytime," Nathan says. "I often ask physicians when I lecture: Would you rather have your patient at home, where they can grab a juice box or whatever they use to treat hypoglycemia at night, or would

> These drugs are for the most part marginally better than some of the older, less expensive drugs, and they carry risks and costs, including financial costs. **Every drug has advantages and disadvantages, and we must weigh the balance between the benefits and costs."**
>
> — DAVID M. NATHAN, MD, DIRECTOR, DIABETES CENTER, MASSACHUSETTS GENERAL HOSPITAL, BOSTON.

you rather they have their episodes during the daytime when they are driving? I think that many of my colleagues haven't carefully considered the data comparing insulins when it comes to type 2 diabetes. The benefits of these new insulins are frankly trivial compared to the cost."

The cost of insulin has skyrocketed in recent years, with analog insulin leading the way at about $300 a vial. NPH has gone up greatly, too, but it is still generally only half that. For those willing to shop, Novo Nordisk distributes NPH product lines at outlets like Walmart and CVS for $25 a vial. Nathan says that part of the job of treating patients may be working with them to find a source that they can afford.

## Early-Stage Drug Choices

Before a patient gets to the point of needing insulin, in the early stages of treating type 2 diabetes, metformin is still the first drug of choice. "Metformin is a well-tolerated drug and is incredibly cheap at $4 a month in most healthcare systems," Nathan says. Sulfonylureas are another inexpensive and commonly used option, at about the same cost as metformin, although they have been "demonized" somewhat unfairly because of problems such as hypoglycemia and cardiovascular risk.

In contrast, newer drugs like SGLT2 inhibitors cost about $400 a month and GLP-1 receptor agonists cost $600 to $800 a month, or about 200 times more. And, as with the newer insulins, the benefits of the newer drugs may not justify the costs, and have been hyped in ways that may not survive a closer look.

For example, Nathan notes that some of the GLP-1 receptor agonists and SGLT-2 inhibitors have been shown "not only to be safe with regard to heart disease, but actually prevent heart disease." But this interpretation overlooks that "these studies were performed in people who already had heart disease, and it was in those participants in whom there was a benefit. The benefit was a 10% or 15% reduction in the next heart attack or the next stroke. The absolute benefit was relatively small, in the range of a reduction of five to 10 events per thousand patient years. The problem is that as these drugs are advertised, you only find the information

that they are indicated for people with prior disease in the fast language in the television advertisement that everyone misses or in the small text at the bottom of the advertisement," Nathan says. Yet many physicians seem to think this benefit will apply to the entire diabetes population.

## Worrisome Side Effects

Some of the newer drugs come with significant side effects. For example, some physicians may be attracted to GLP-1 receptor agonists because they are associated with weight loss, in contrast to insulin and sulfonylureas, which are associated with a gain of five to 10 pounds. However, the weight loss with GLP-1 receptor agonists is modest — about six pounds — and may last only a year. "The problem is that some of the weight loss is because the drugs can cause nausea, vomiting, and diarrhea. Probably 10% to 20% of patients who are started on those drugs say, 'I hate it. I'm not going to take it'," Nathan says.

The SGLT2 inhibitors lower blood glucose by blocking glucose re-uptake by the kidneys. But that action puts abundant glucose into the urine, which leads to recurrent yeast infections. Even more worrisome, the drugs raise the risk of diabetic ketoacidosis, which is why the U.S. Food and Drug Administration turned down their use in type 1 diabetes.

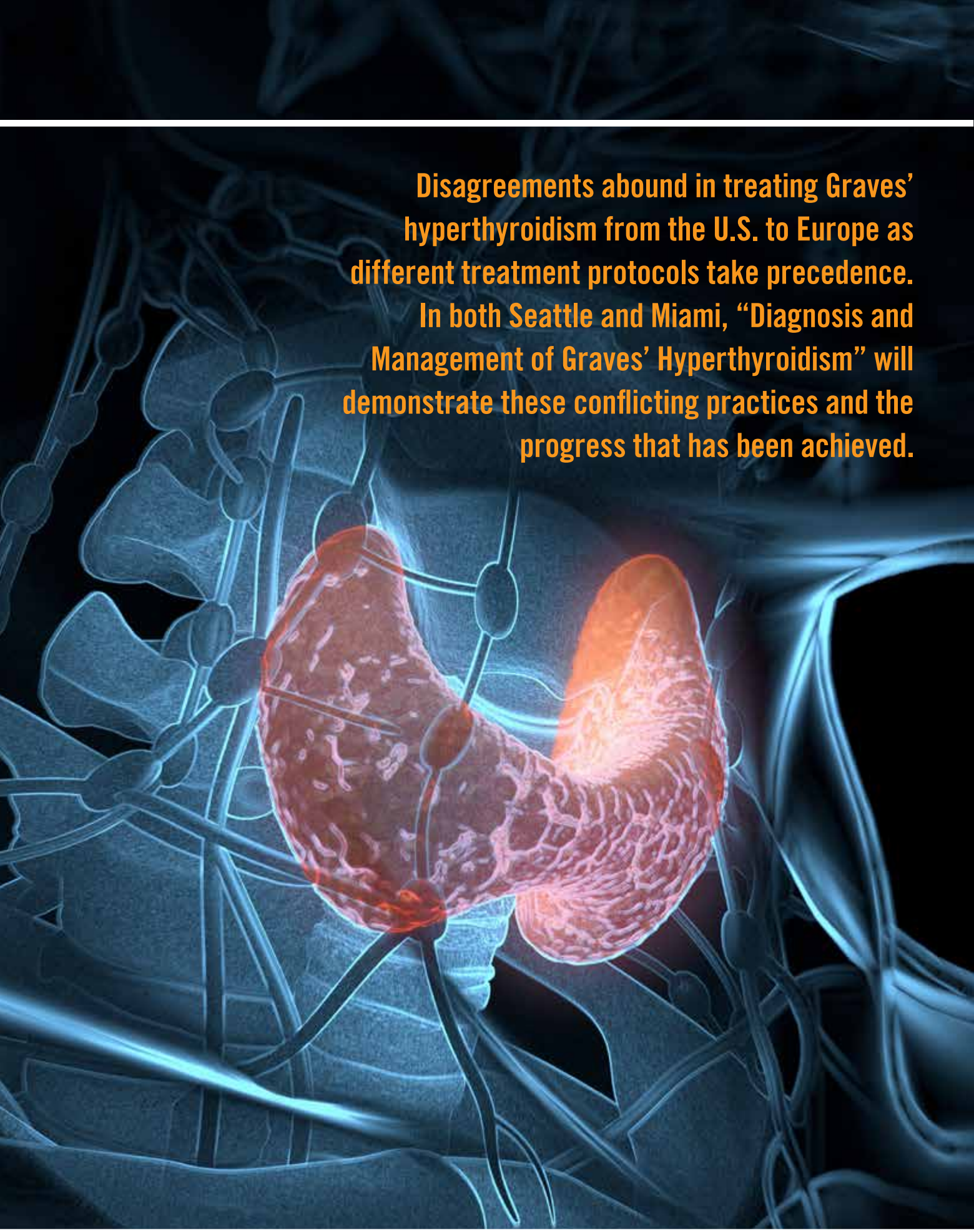
"These expensive diabetes drugs are associated with a raft of side effects. The pluses and minuses need to be weighed," Nathan says.

A final consideration is that widespread use of expensive drugs drives up the overall cost of healthcare. The cost of treating diabetes in the U.S. rose from $245 billion a year in 2012 to $327 billion in 2017. "Those cost increases are related to the drugs we are using. Somebody has to look out for the pocketbook or there won't be any money to pay for anything. I don't think we can ignore what this is costing all of us," Nathan says. EN


— SEABORG IS A FREELANCE WRITER BASED IN CHARLOTTESVILLE, VA. HE WROTE ABOUT THE ENDOCRINE SOCIETY'S CLINICAL PRACTICE GUIDELINE ON TREATING DIABETES IN OLDER ADULTS IN THE JULY ISSUE.

# AT A GLANCE

- The goals of treating diabetes — such as safety, reducing hemoglobin A1c levels, and reducing the burden of disease — can often be met using tried-and-true, lower-cost medications.
- Many of the newer drugs for diabetes are so expensive compared with their minimal improvements in benefits that it is hard to justify using them.
- Clinicians need to look past advertising to clinical study results to discern the true benefits vs. risks of newer diabetes medications.



**Disagreements abound in treating Graves' hyperthyroidism from the U.S. to Europe as different treatment protocols take precedence. In both Seattle and Miami, "Diagnosis and Management of Graves' Hyperthyroidism" will demonstrate these conflicting practices and the progress that has been achieved.**

# GRAVES' ANATOMY:

## *Transatlantic Differences in Treating Graves' Hyperthyroidism*

Graves' disease – the most common cause of hyperthyroidism – affects between 1% and 1.5% of the population, occurring in women and African Americans the most, and hitting iodine-replete regions of the world especially hard, with 20 to 30 cases per 100,000 people each year. If left untreated, hyperthyroidism can lead to myriad complications, from osteoporosis to cardiovascular problems.

**BY DEREK BAGLEY**

> **With personalized medicine, the physician informs and counsels the patient, and answers all questions pertaining to the several treatment approaches."**
>
> —GEORGE J. KAHALY, MD, PHD, PROFESSOR OF MEDICINE AND ENDOCRINOLOGY/METABOLISM, CHIEF PHYSICIAN, ENDOCRINE OUTPATIENT CLINIC, JOHANNES GUTENBERG UNIVERSITY (JGU) MEDICAL CENTER, MAINZ, GERMANY

Graves' disease, of course, has no cure, but recent years have seen many scientific advances in its management, which meant the medical community had to rise to meet the challenge of what to make of all the new developments, and yet some transatlantic disagreement remains.

In 2016, the American Thyroid Association published its updated guidelines on the diagnosis and treatment of Graves' disease, which included 124 recommendations to help physicians in the optimal practice of treating patients, including management of Graves' hyperthyroidism using radioactive iodine, antithyroid drugs, and surgery.

Two years later, the European Thyroid Association published their own guidelines on this topic, and lead author George J. Kahaly, MD, PhD, professor of medicine and endocrinology/metabolism and chief physician of the Endocrine Outpatient Clinic at the Johannes Gutenberg University (JGU) Medical Center in Mainz, Germany, says that there is a bit of a distinction between the American and the European guidelines when it comes to how clinicians should approach caring for these patients.

Kahaly is the director of the Molecular Thyroid Research Laboratory at JGU and has authored 257 original papers and reviews, covering clinical and experimental aspects of endocrine autoimmunity, immunogenetics of thyroid and polyglandular autoimmunity, and cardiovascular involvement of metabolic disorders. He is an associate editor of *The Journal of Clinical Endocrinology & Metabolism* and on the editorial board of the *European Thyroid Journal*, the official journal of the European Thyroid Association.

In the session "Diagnosis and Management of Graves' Hyperthyroidism," Kahaly brings his expertise to CEU 2019. "I will show the main differences between Europe and the United States, between the European guideline and American guideline," he says, "telling the audience, why are we choosing in Europe medical treatment first? What are our arguments? Why should we go first for the conservative management? Then, if we are not successful, go for definitive or ablation treatment, i.e., surgery or radioactive iodine."

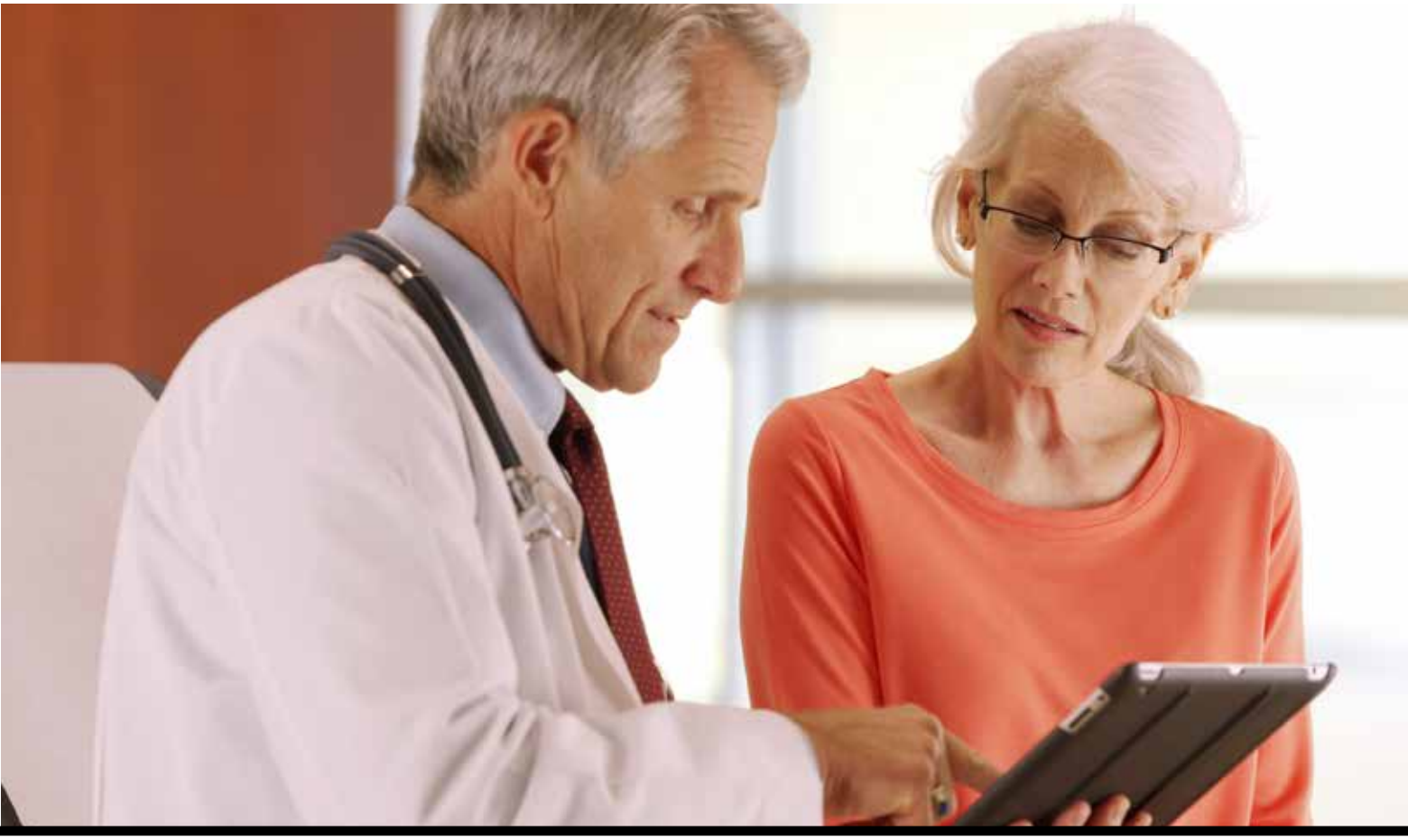
## U.S. Versus Europe

Kahaly and his team at JGU Medical Center follow 1,000 patients a year with Graves' disease and/or autoimmune thyroid disease, experience that he says informed how he and his co-authors drafted the European

guidelines. While Kahaly worked on the draft of the European guidelines, he spent time talking to Douglas Ross, MD, of Massachusetts General Hospital, who is the lead author of the American guidelines. "We had the opportunity to compare the two guidelines and to discuss the management for the patient with Graves' hyperthyroidism in the United States and in Europe," Kahaly says.

In 2016, Kahaly and Ross shared the stage at the annual meeting of the American Thyroid Association in Denver, debating how to treat patients with Graves' hyperthyroidism. The European guidelines call for a more conservative treatment, using antithyroid drugs (ATDs) like methimazole as the first-line, long-term treatment, while Kahaly says that for years the primary treatment of Graves' hyperthyroidism in the U.S. was radioactive iodine (RAI).

Indeed, the 2016 American guidelines acknowledge this discrepancy, with the authors writing, "In the United States, RAI has been the therapy most preferred by physicians, but a trend has been present in recent years to increase use of ATDs and reduce the use of RAI. A 2011 survey of clinical endocrinologists showed that 59.7% of respondents from the United States selected RAI as primary therapy for an uncomplicated case of Graves' disease, compared with 69% in a similar survey performed 20 years earlier. In Europe, Latin America, and Japan, there has been a greater physician preference for ATDs."



> In these last three years we have observed tremendous progress in the management of Graves' hyperthyroidism, as well in the management of Graves' eye disease. I will make it clear to the audience and show them the progress achieved. **And, I will offer the audience a perspective for the next five years, how are we moving and where are we moving in those diseases."**
>
> —GEORGE J. KAHALY, MD, PHD, PROFESSOR OF MEDICINE AND ENDOCRINOLOGY/METABOLISM, CHIEF PHYSICIAN, ENDOCRINE OUTPATIENT CLINIC, JOHANNES GUTENBERG UNIVERSITY (JGU) MEDICAL CENTER, MAINZ, GERMANY

**MIAMI**

**Diagnosis and Management of Graves' Hyperthyroidism**

Saturday, September 7th, 2019
11:20 – 11:50 AM

**SEATTLE**

**Diagnosis and Management of Graves' Hyperthyroidism**

Saturday, September 21st, 2019
11:20 – 11:50 AM

The European authors in their recommendations describe in detail the pros and cons of the three currently available treatments for autoimmune hyperthyroidism. Pertaining to RAI, which results in both decreased thyroid function and reduction in thyroid size, the European guidelines state the following: "There are neither good measures of individual radio sensitivity nor ideal methods of predicting the clinical response to RAI therapy."

"At the ATA annual meeting in Denver, September 2016, I reported on the long-term experience with the conservative ATD treatment," Kahaly says, "arguing for this treatment and demonstrating that you are not harming these patients. Furthermore, you may offer these subjects a long-term treatment if they are compliant and tolerating the drug. Overall, the discussion in Denver was lively, illuminating and very informative, offering the audience a complete state of the art of the management of Graves' disease in the U.S. as well as abroad."

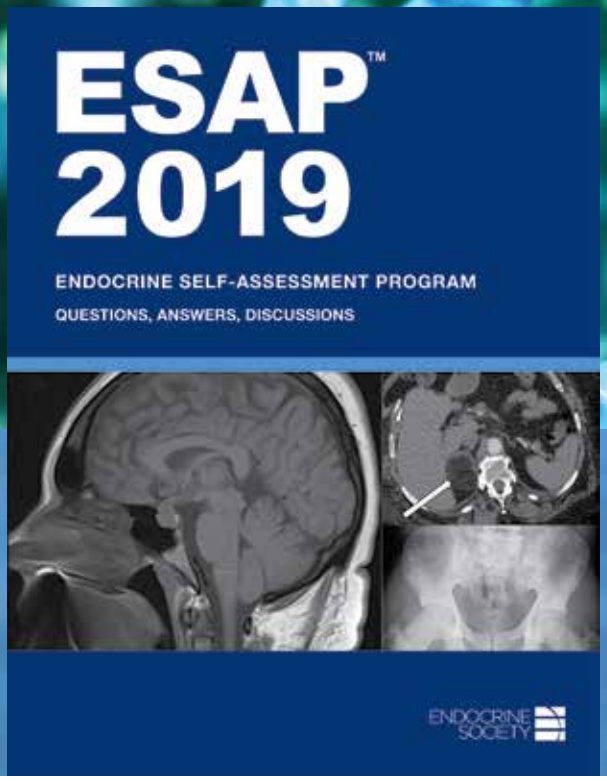
## Personalized Medical Approach

For Kahaly, this more conservative approach to treating patients with Graves' hyperthyroidism is an important aspect of personalized care, in which the physician can lay all the options out of the table and recommend a relative harmless, non-invasive route. "With personalized medicine, the physician informs and counsels the patient, and answers all questions pertaining to the several treatment approaches," he says.

He hopes to do the same with the CEU attendees, informing audience members about the strides the endocrine community has made in treating patients with Graves' disease and the steps needed to keep moving forward. In fact, Kahaly will be busy at CEU, giving both the plenary talk on Graves' hyperthyroidism as well as a Meet-the-Professor lecture on Graves' eye disease. Subsequently, he will join a roundtable discussion on thyroid function tests.

"This is the second time I've been invited to the Clinical Endocrinology Update, the last time in 2016," he says. "And in these last three years we have observed tremendous progress in the management of Graves' hyperthyroidism and associated eye disease. I will make it clear to the audience and show them the progress achieved. In addition, I will offer the audience a perspective for the next five years, how and where are we going from now on. The progress will be challenging, both in Europe and in the United States." EN

—BAGLEY IS THE SENIOR EDITOR OF *ENDOCRINE NEWS*. HE WROTE ABOUT TREATING INFANTS BORN WITH DIFFERENCES IN SEX DEVELOPMENT IN THE JULY ISSUE.

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ENDOCRINE SOCIETY

# Board READY

## Serge Jabbour, MD, chair, Endocrine Board Review Faculty, tells EBR attendees what to expect and why this annual event is so important to practicing endocrine clinicians.

**BY GLENDA FAUNTLEROY SHAW**

For endocrinologists planning to take the endocrine board exam, the annual Endocrine Board Review (EBR) has become an integral part of the preparation process. This year, the Endocrine Society will host EBR 2019 in Seattle on September 17 – 18. In addition to fellows preparing for their initial board exam, this two-day event also benefits practicing endocrinologists with intensive and engaging case-based learning to prepare them for recertification or just to stay up to date.

Serge Jabbour, MD, presides over EBR as Chair in the second year of his term, and is the director of the Division of Endocrinology, Diabetes & Metabolic Diseases at Sidney Kimmel Medical College at Thomas Jefferson University in Philadelphia. *Endocrine News* spoke with Jabbour to learn more about the importance of EBR and why endocrinologists should add it to their must-do calendar events.

**ENDOCRINE NEWS:** As chair of the EBR you are also part of the diabetes faculty. What role do you and the other faculty members have on the committee?

**SERGE JABBOUR:** The EBR faculty write the mock exam questions. As chair, I oversee everything, but I also write one of the two diabetes sections myself. Before becoming chair, I also spent the previous two years as one of the committee's diabetes faculty.

We have nine faculty, including myself, and we have nine sections to write and review. In addition to diabetes, there's lipids and obesity, bones and calcium,

**2019 ENDOCRINE BOARD REVIEW**

**September 17 – 18, 2019**

Hyatt Regency Seattle,
Seattle, Washington

pituitary, adrenal, thyroid, male reproduction, and female reproduction. Each of the faculty serve on the committee as experts in their respective sections.

**EN:** Who attends EBR for the mock exam experience? Are most attendees taking the next available board exams?

**SJ:** The numbers of those who attend breaks down in the rule of thirds. A third are people coming for the first time to prepare for the endocrine board exam. A third are coming for the recertification, and the final third come just to learn and earn CME credits.

**EN:** Is each endocrine subject featured equally, for example, do certain topics appear more than others?

**SJ:** One of the fantastic reasons to attend EBR is that we cover the entire spectrum of endocrinology. We, in fact, follow the ABIM [American Board of Internal Medicine] blueprint. On the ABIM website, the blueprint gives the percent of each section and what topics are covered. So, when we write the questions, we follow the blueprint to know what topics we need to cover because these are going to be on the exam. Diabetes does make up the largest percentage of the endocrine board exam, so you will see more diabetes questions at EBR, but we cover the entire breadth of endocrinology.

**EN:** How many people usually attend EBR?

**SJ:** It depends on the year. Usually between 250 and 400 people attend. I think this is the perfect size to be able learn together and still be able to ask your questions and talk to the experts one on one.

**EN:** For anyone who is considering attending EBR what should they expect?

> “We give attendees tips and extra insights you won't get from a book. For instance, we talk about why you got the question wrong. **So when you see a similar question on the boards, you'll know that’s how you need to think about it.”**

## 2019 Endocrine Board Review Faculty

**Richard Auchus, MD, PhD,**
*Adrenal*

**Carolyn B. Becker, MD**
*Calcium & Bone*

**Serge A. Jabbour, MD, chair**
*Diabetes*

**Michelle F. Magee, MD**
*Diabetes*

**Kathryn A. Martin, MD**
*Female Reproduction*

**Frances J. Hayes, MBBCh, BAO**
*Male Reproduction*

**Andrea D. Coviello, MD**
*Obesity/Lipids*

**Laurence Katznelson, MD**
*Pituitary*

**Elizabeth N. Pearce, MD, MSc**
*Thyroid*

**SJ:** Over the two days of Endocrine Board Review, all of us as experts will cover the whole spectrum of the endocrine-based blueprint. We have a total of 240 interactive case-based questions and attendees have a set time to answer each. The attendees can see the answer right away and also see who answered right and who answered wrong. Then the topic expert will explain the correct answer.

We give attendees tips and extra insights you won't get from a book. For instance, we talk about why you got the question wrong. So when you see a similar question on the boards, you'll know that's how you need to think about it. So through the 240 questions, the attendees who are either certifying or recertifying, or just coming to learn, will learn how to read the questions very well on the real boards.

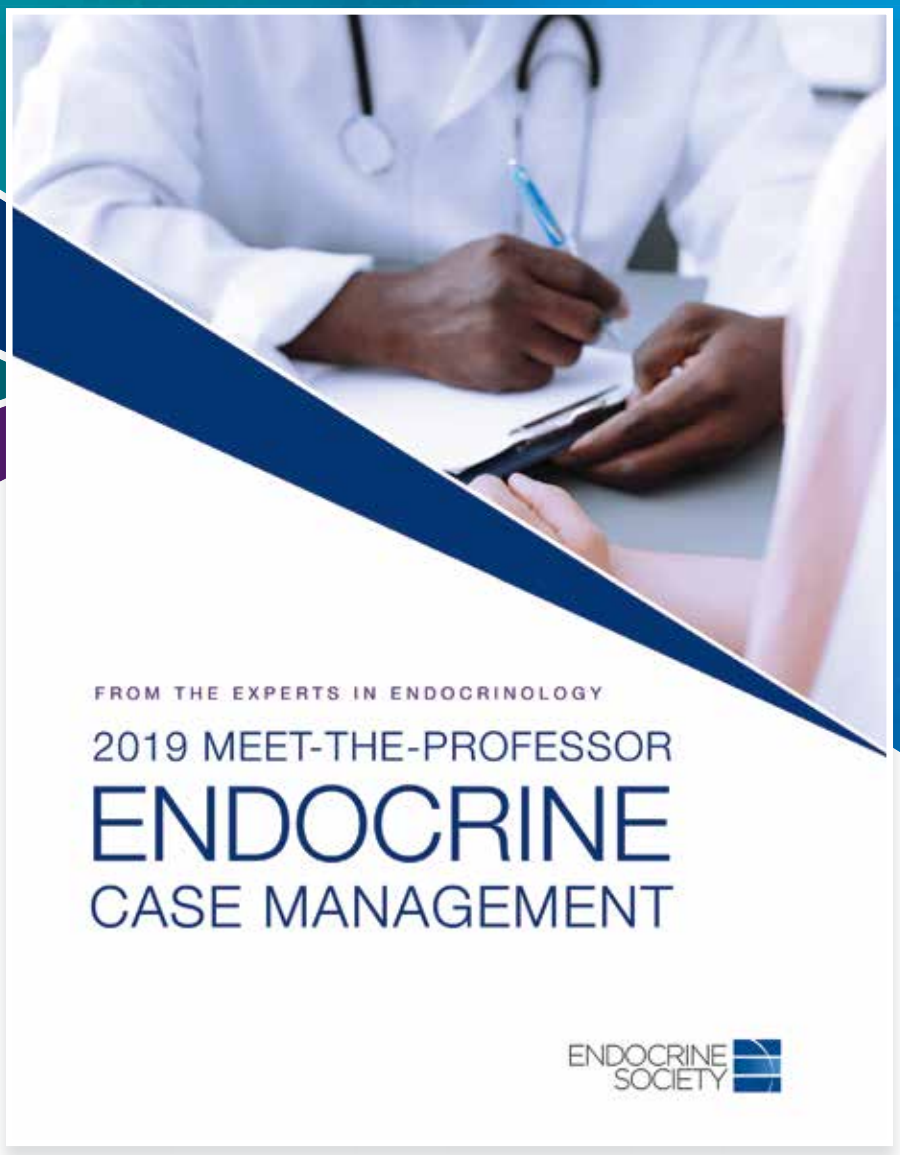
**EN:** So the feedback is in real-time.

**SJ:** Exactly. So when they answer the question, they know if they got it right immediately. Each attendee has a clicker, and when a question is shown they get 10 seconds to answer. On the actual boards they have two minutes for each question. Then at the end of each of our questions, we project on a slide with the percentage of attendees who selected each response, say 10% chose A, 60% chose B, and so on. Then the expert details the correct answer. So the feedback is detailed, and we know this real-time feedback is invaluable.

All in all, I encourage all endocrinologists to attend EBR, as it covers every single topic in endocrinology and on the ABIM blueprint. EN

> "The numbers of those who attend breaks down in the rule of thirds. **A third are people coming for the first time to prepare for the endocrine boards. A third are coming for the recertification, and the final third come just to learn and earn CME credits."**

—FAUNTLEROY SHAW IS FREELANCE WRITER AND EDITOR BASED IN CARMEL, IND. SHE IS A REGULAR CONTRIBUTOR TO *ENDOCRINE NEWS*.

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ENDOCRINE SOCIETY

BY COURTNEY CARSON

# CEU COAST TO COAST

*Photo courtesy of the Greater Miami Convention and Visitors Bureau, MiamiandBeaches.com.*

Downtown Seattle skyline with Mount Rainier in the distance. *Photo by f11photo / Shutterstock.com.*

The constant evolution of clinical endocrinology practice requires that endocrinologists need to evolve as well. The Endocrine Society's Clinical Endocrinology Update (CEU) is once again taking place on each coast this year, giving clinicians a choice of where and when to attend.

Every year, the Endocrine Society holds Clinical Endocrinology Update (CEU), which brings together hundreds of endocrine clinicians for a unique learning experience and opportunities to network with expert faculty and colleagues.

Once again, CEU East will be held in Miami, Fla., while CEU West moves up the West Coast to Seattle, Wash., to allow for multiple options to better serve the endocrine community by exploring the newest breakthroughs and changes in the field of endocrinology. Renowned faculty from around the world will present a comprehensive, in-depth endocrine program.

Each three-day meeting will focus on the latest updates in the diagnosis and treatment of endocrine conditions, giving attendees the opportunity to apply their knowledge to real-life scenarios. Sessions include Meet-the-Professor, debates, and panel discussions. CEU's smaller, more intimate setting means guests will have more opportunities to work alongside and network with colleagues and experts in the field.

Miami's CEU will be held September 5 – 7 and Seattle's will be September 19 – 21. Seattle will also be the location for the 2019 Endocrine Board Review (EBR). This case-based course is designed as a mock exam, with rapid-fire questions emulating the format and subject matter of the ABIM's Endocrinology, Diabetes, and Metabolism Certification Examination.

EBR provides a consolidated review for endocrine fellows planning to take the upcoming 2019 endocrine board exam and offers an early start for trainees preparing for the 2020 exam. It is also an ideal tool for practicing physicians preparing to re-certify or for those seeking an intensive knowledge assessment.

**CEU and EBR are can't-miss events for the field of endocrinology. Register now to attend CEU and come early or stay late to explore all Miami and Seattle have to offer!**

Top: South Pointe Park's children's splash pad. Bottom: Downtown Miami skyline.

# *Welcome to Miami!*

There's a great reason CEU is returning to Miami in 2019 — it remains one of the United States' — and the world's — most popular vacation spots. While many destinations claim to offer something for everyone, Miami does indeed offer multiple enticements for all walks of life. From the trendy nightlife in South Beach to the art deco eye candy and family-friendly outdoor attractions, Miami really does have something for everyone!

## What to Do

With its white sand beaches, turquoise waters, and subtropical climate, Miami is the place to enjoy the great outdoors. Miami is home to some of the best snorkeling and scuba diving in the U.S., with colorful views of marine life and coral reefs, as well as lush tropical vegetation. A day on Miami's beaches is a must. Miami's most famous beach is South Beach, the most bustling spot along the Miami coastline. Most locals with

Obstinate Lighthouse sculpture by Tobias Rehberger.

Vintage car and Art Deco buildings along Ocean Drive.

Molina Fine Art Gallery storefront in Little Havana.

*All photos courtesy of the Greater Miami Convention and Visitors Bureau, MiamiandBeaches.com.*

families opt for South Pointe Park Beach because of its kid-friendly facilities, including a mini wading pool, playground, and South Pointe Park Pier. For an ideal spot to sunbathe or just relax, Miami Beach's central stretch offers a more relaxed atmosphere than the always buzzing South Beach.

But there's also life beyond the beach in Miami! An art lover's paradise, Miami is an epicenter for arts and culture with its innovative arts districts, internationally acclaimed art shows, and countless galleries and museums. Art Center South Florida is a cultural center and studio space hosting roughly 20 artists in residence. One of the most ambitious and recognizable galleries in Miami is Spinello Projects which encompasses a design house and a platform for "nomadic site-specific and curatorial special projects."

## Where to Stay

CEU returns to the InterContinental Miami, the host hotel for CEU 2019. This iconic hotel is located on the shore of Biscayne Bay at the heart of bustling downtown Miami and offers rooms and suites with breathtaking views of the city or water.

While at the InterContinental, you can pamper yourself with a trip to the spa for a variety of treatments. Other amenities include a 24-hour fitness center, a sauna, and a beautiful outdoor pool, ideal for a refreshing dip after a day of CEU.

# Raising the Bar in Miami

Something is always brewing in Miami, and, at the top of the list for many travelers, is the drink scene. Miami raises the bar with the perfect spot for travelers from all walks of life to quench their thirst.

### Broken Shaker

Miami is known as one of the nation's top cities for cocktails, and Broken Shaker definitely plays a role in earning that reputation. Named Best American Hotel Bar at Tales of the Cocktail's Spirited Awards, Broken Shaker is located at the Freehand and serves as a sort of backyard oasis for guests and non-guests of the hotel. The menu rotates seasonally, featuring cocktails made from the freshest ingredients that are served to guests lounging in mismatched patio furniture, playing ping-pong, or just relaxing under the twinkling outdoor lights.

### Mac's Club Deuce

One of the last true dive bars in South Beach, Mac's Club Deuce isn't the place to shell out an outrageous amount for a fancy cocktail. This is the place to go to enjoy a drink in a fun, relaxed atmosphere, while playing pool into the night. A Miami establishment, Club Deuce has a storied history as the home to *Miami Vice* cast parties, and one of Anthony Bourdain's favorite spots in the world, and it has been listed as one of the top bars in the country by numerous publications. More neon-lit signs with a smoky glow than glitzy with a fog-filled dance floor, Club Deuce is the place to relax with a cold drink from the late afternoon into the late night.

### J Wakefield

Before opening the doors to his brewery, Jonathan Wakefield was experimenting with brews at home and clearly with much success! He crowdfunded $100,000 to open his own establishment, which is known today as J Wakefield. The independently owned craft brewery and taproom, located in the heart of Miami's Wynwood Arts District, combines two of America's favorites — beer and *Star Wars*. The décor features wall-length murals of *Star Wars* characters curated by local artists and countless comic book lithographs in a 1,200-square-foot space. Additional seating can be found outside in the Empire-themed beer garden.

### Sugar

Located 40 stories above Miami, Sugar offers breathtaking 360-degree views of the city. While there is often a wait to get to this rooftop bar situated atop EAST, Miami, it is definitely worth the wait. Following the Asian feel of the EAST hotel, this swanky bar features Asian-inspired décor, cocktails, and tapas. The rooftop feels more like an enchanted garden than a bar with its lush tropical plants and invites guests to stay a while to watch the day turn into night.

**Mandolin Aegean Bistro restaurant in the Design District's Buena Vista neighborhood.** ***Photo courtesy of the Greater Miami Convention and Visitors Bureau, MiamiandBeaches.com.***

## What to Eat

Gone are the days when Miami's culinary scene evoked images of early-bird specials for snowbirds flocking from the frigid temperatures of their hometowns. Now, the first thing to come to mind is fresh seafood, and many restaurants are capitalizing on the fresh resources located right outside their doors. Michael Schwartz, James Beard Award-winning chef/owner of Michael's Genuine Food and Drink focuses his menu on the area's year-round access to fresh fish and produce. And, Joe's Stone Crab lets the main ingredient of their most famous dishes shine without adding too many ingredients to take away from the fresh seafood taste. That idea is clearly working, as the restaurant has been in business for over a century!

La Sandwicherie isn't an actual restaurant; it's a sandwich counter with outdoor seating — but it's not just any sandwich counter! It's a gourmet, French-inspired sandwich counter where everything comes served on a French baguette or a buttery, flaky croissant.

The Design District's Mandolin Aegean Bistro, housed in a blue- and white-trimmed 1940s bungalow, features Greek and Turkish cuisine, while Sanguich de Miami serves up what has been called the best Cuban food in Miami in a quaint, 25-seat restaurant with a menu of classic Cuban sandwiches and made-to-order batidos.

Begin planning your stay in Miami and make your reservations for CEU Miami today!

## Thursday, September 5

| | |
|---|---|
| 7:00 AM | BREAKFAST |
| 7:45-7:55 AM | **Welcome and Introduction** |
| 7:55-8:25 AM | **Drug Holidays: What Patients and What Drugs?**<br>E. Michael Lewiecki, MD; New Mexico Clinical Research & Osteoporosis Center |
| 8:25-8:55 AM | **Fracture Healing**<br>Nelson B. Watts, MD; Mercy Health |
| 8:55-9:25 AM | **Premenopausal Osteoporosis**<br>Adi Cohen, MD; Columbia University Medical Center |
| 9:25-9:55 AM | **Transplant-Related Osteoporosis**<br>Ejigayehu G. Abate, MD; Mayo Clinic Jacksonville |
| 9:55-10:10 AM | **Q&A/Panel Discussion** |
| 10:10-10:25 AM | COFFEE BREAK/EXHIBITS |
| 10:25-10:55 AM | **Helping Patients Find Motivation for Lifestyle Change**<br>Scott Kahan, MD, MPH; National Center for Weight and Wellness |
| 10:55-11:25 AM | **What's New in Obesity Treatment?**<br>Donna H. Ryan, MD; Pennington Biomedical Research Center |
| 11:25-11:55 AM | **The New Cholesterol Management Guidelines**<br>Lisa R. Tannock, MD; University of Kentucky |
| 11:55 AM-12:10 PM | **Q&A/Panel Discussion** |
| 12:10-1:25 PM | LUNCH/EXHIBITS |
| 1:25-2:10 PM | **Meet-the-Professor Breakout Sessions**<br>**Overview of Rare Bone Disease**<br>E. Michael Lewiecki, MD; New Mexico Clinical Research & Osteoporosis Center<br>**Pharmacotherapy for Weight Reduction**<br>Donna H. Ryan, MD; Pennington Biomedical Research Center<br>**Challenging Cases in Lipid Management**<br>Lisa R. Tannock, MD; University of Kentucky<br>**When Not to Use Testosterone in Men**<br>Shehzad S. Basaria, MD; Brigham & Women's Hospital<br>**HRT for Women**<br>Margaret E. Wierman, MD; University of Colorado School of Medicine |
| 2:10-2:25 PM | BREAK/EXHIBITS |
| 2:25-2:55 PM | **Hypogonadal Cases**<br>Frances J. Hayes, MBBCh, BAO; Massachusetts General Hospital |
| 2:55-3:25 PM | **Testosterone Replacement Modalities: Pros, Cons and Their Correct Use**<br>Shehzad S. Basaria, MD; Brigham & Women's Hospital |
| 3:25-3:40 PM | **Q&A/Panel Discussion** |
| 3:40-3:55 PM | COFFEE BREAK/EXHIBITS |
| 3:55-4:25 PM | **PCOS Treatment**<br>Anuja Dokras, MD, PhD; University of Pennsylvania |
| 4:25-4:55 PM | **Controversies in the Treatment of Women with Menopausal Hormones**<br>**Panelists:** Margaret E. Wierman, MD; University of Colorado School of Medicine<br>Cynthia Stuenkel, MD; University of California, San Diego<br>**Moderator:** Anuja Dokras, MD, PhD; University of Pennsylvania |
| 4:55-5:10 PM | **Q&A/Panel Discussion** |
| 5:10-5:15 PM | BREAK |
| 5:15-6:00 PM | **Meet-the-Professor Breakout Sessions (Repeated)** |
| 6:00-7:00 PM | WELCOME RECEPTION/EXHIBITS |

## Friday, September 6

| | |
|---|---|
| 7:00 AM | BREAKFAST |
| 7:45-7:50 AM | **Welcome and Introduction** |
| 7:50-8:30 AM | **Diabetes on a Budget**<br>David Matthew Nathan, MD; Massachusetts General Hospital |
| 8:30-9:00 AM | **Contemporary Management of T1D in Pregnancy**<br>Carol J. Levy, MD, CDE; Icahn School of Medicine at Mount Sinai |
| 9:00-9:30 AM | **Update on Diabetic Nephropathy**<br>Robert C. Stanton, MD; Joslin Diabetes Center |
| 9:30-9:45 AM | **Q&A/Panel Discussion** |
| 9:45-10:00 AM | COFFEE BREAK/EXHIBITS |
| 10:00-10:30 AM | **Glycemic Management after Bariatric Surgery**<br>Mary-Elizabeth Patti, MD; Joslin Diabetes Center |
| 10:30-11:00 AM | **Safety of Novel Agents in T2D Management**<br>Carol Wysham, MD; Rockwood Center for Diabetes |
| 11:00-11:30 AM | **Challenges with Technology: Difficult Pump and CGM Cases**<br>Anders L. Carlson, MD; International Diabetes Center |
| 11:30-11:50 AM | **Q&A/Panel Discussion** |
| 11:50 AM-1:10 PM | LUNCH/EXHIBITS |
| 1:10-1:55 PM | **Meet-the-Professor Breakout Sessions**<br>**Treatment of Diabetes in the Elderly**<br>Mark E. Molitch, MD; Northwestern Feinberg School of Medicine<br>**Revisiting Old Drugs for T2D**<br>David Matthew Nathan, MD; Massachusetts General Hospital<br>**Challenges in the Evaluation and Management of Hypoglycemia**<br>Mary-Elizabeth Patti, MD; Joslin Diabetes Center<br>**Adrenal Cushing Diagnosis and Management**<br>Lynnette K. Nieman, MD; National Institutes of Health<br>**Adrenal Incidentaloma: Challenging Cases**<br>William F. Young, Jr., MD; Mayo Clinic |
| 1:55-2:05 PM | BREAK/EXHIBITS |
| 2:05-2:35 PM | **Challenges of Managing Paraganglioma and Pheochromocytoma**<br>Anand Vaidya, MD, MMSc; Brigham and Women's Hospital |
| 2:35-3:05 PM | **Adrenal Questions and Answers**<br>William F. Young, Jr., MD; Mayo Clinic |
| 3:05-3:35 PM | **Diagnosis and Management of Adrenal Insufficiency**<br>Lynnette K. Nieman, MD; National Institutes of Health |
| 3:35-3:55 PM | **Q&A/Panel Discussion** |
| 3:55-4:15 PM | COFFEE BREAK/EXHIBITS |
| 4:15-5:00 PM | **Meet-the-Professor Breakout Sessions (Repeated)** |
| 5:00 PM | **Adjourn** |

South Beach shops on corner of Collins Ave. and 7th St.
*Photo courtesy of the Greater Miami Convention and Visitors Bureau, MiamiandBeaches.com.*

Aerial view of PortMiami and downtown in the background. *Photo courtesy of the Greater Miami Convention and Visitors Bureau, MiamiandBeaches.com.*

## DAY 3 Pituitary and Thyroid

## CEU MIAMI

### Saturday, September 7

| | |
|---|---|
| 7:00 AM | BREAKFAST |
| 7:00-7:40 AM | **The ABCs of Practice Payment: Changes to E&M and QPP**<br>Erika Miller; Cavarocchi Ruscio & Dennis Associates |
| 7:40-7:55 AM | **Welcome and Introduction** |
| 7:55-8:25 AM | **Cushing's Disease: Update on Treatment**<br>Maria Fleseriu, MD; Oregon Health and Science University |
| 8:25-8:55 AM | **Non-Functioning Pituitary Adenomas**<br>Shlomo Melmed, MD; Cedars-Sinai Medical Center |
| 8:55-9:25 AM | **Prolactinomas: Special Topics**<br>Mark E. Molitch, MD; Northwestern University Feinberg School of Medicine |
| 9:25-9:40 AM | **Q&A/Panel Discussion** |
| 9:40-9:55 AM | COFFEE BREAK |
| 9:55-10:40 AM | **Meet-the-Professor Breakout Sessions**<br>**Hypophysitis: Etiology and Management**<br>Maria Fleseriu, MD; Oregon Health and Science University<br>**Diagnosis and Management of Hyponatremia**<br>Joseph G. Verbalis, MD; Georgetown University Medical Center<br>**Graves' Orbitopathy**<br>George J. Kahaly, MD, PhD; Johannes Gutenberg University Medical Center<br>**Treatment Options for Advanced Thyroid Cancer**<br>Stephanie Fish, MD; Memorial Sloan Kettering Cancer Center<br>**Molecular Markers in the Workup of Thyroid Nodules**<br>Matthew Ringel, MD; The Ohio State University Comprehensive Cancer Center |
| 10:40-10:50 AM | BREAK/EXHIBITS |
| 10:50-11:20 AM | **Risk Stratification in Thyroid Cancer**<br>Stephanie Fish, MD; Memorial Sloan Kettering Cancer Center |
| 11:20-11:50 AM | **Diagnosis and Management of Graves' Hyperthyroidism**<br>George J. Kahaly, MD, PhD; Johannes Gutenberg University Medical Center |
| 11:50-12:05 PM | **Q&A/Panel Discussion** |
| 12:05-1:20 PM | LUNCH/EXHIBITS |
| 1:20-2:05 PM | **Meet-the-Professor Breakout Sessions (Repeated)** |
| 2:05-2:10 PM | BREAK |
| 2:10-2:40 PM | **Clinical Update on Thyroid and Pregnancy**<br>Elizabeth N. Pearce, MD, MSc; Boston University Medical Center |
| 2:40-3:25 PM | **Unusual Thyroid Function Tests: Cases to Panelists**<br>Stephanie Fish, MD; Memorial Sloan Kettering Cancer Center<br>George J. Kahaly, MD, PhD; Johannes Gutenberg University Medical Center<br>Elizabeth N. Pearce, MD, MSc; Boston University Medical Center |
| 3:25-3:30 PM | **Closing** |

Chihuly Gardens and Glass Museum at the Seattle Center.
*Photo by Harvey O. Stowe / Shutterstock.com.*


# The Emerald City

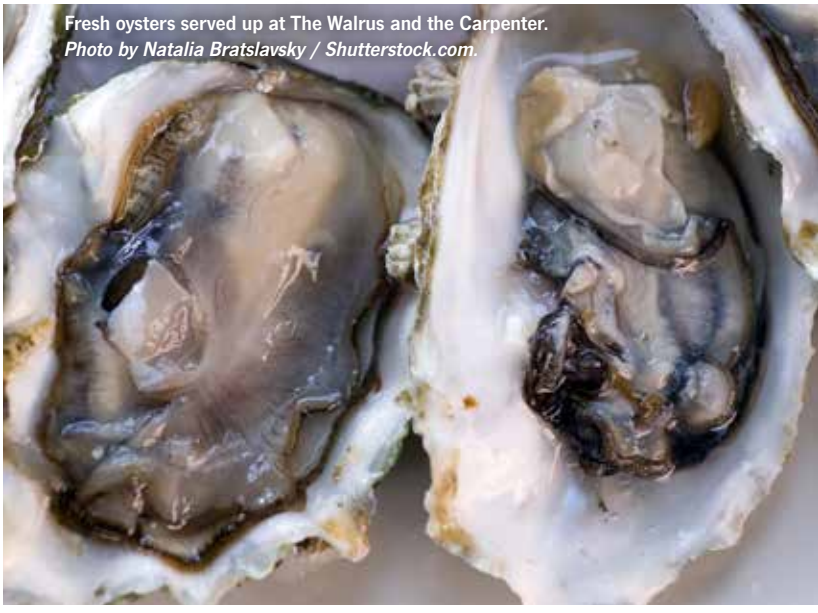
From its retro Space Needle to the booming tech scene, Seattle has always been looking toward the future — but always with the backdrop of the lush Pacific Northwest. Nestled between the Puget Sound and the Cascade Mountain Range, Seattle is the largest city in the Pacific Northwest. Seattle may be synonymous with coffee, rainy days, and its former grunge music scene, but there is so much more to this bustling metropolis. An exciting urban city surrounded by unmatched natural beauty, Seattle is a one-of-a-kind destination not to be missed!

## What to Do

No icon represents Seattle quite like the Space Needle. Built in 1962 for a futuristic World's Fair, it now sits above the Seattle Center, the perfect emblem of a city that has, then and now, embraced science and technology. Offering unmatched views of the city, both day and night, the Space Needle is one tourist attraction that lives up to the hype. Another famed attraction in the city is Pike Place Market, where fishmongers sell fresh halibut and salmon, open air flower shops offer extremely affordable bouquets, and residents and tourists alike find the

The Space Needle at the Seattle Center.
*Photo by Felix Mizioznikov / Shutterstock.com.*

Pike Place Public Market.
*Photo by f11photo / Shutterstock.com.*



Fresh oysters served up at The Walrus and the Carpenter.
*Photo by Natalia Bratslavsky / Shutterstock.com.*

freshest fruit and vegetables in the city. And, speaking of Pike Place, there's a good reason Starbucks' signature blend is named after the market. The very first Starbucks, which is still in operation, is located directly across the street from the market.

Seattle is also home to a bustling arts and culture scene. Museums abound ranging from the family-friendly Pacific Science Center, home to a planetarium and tropical butterfly house, to MoPOP, The Museum of Pop Culture, where guests can get an up-close look at costumes worn on stage by Freddy Mercury and, of course, learn all about Seattle's own Kurt Cobain and Nirvana. The Seattle Art Museum, Outdoor Sculpture Park, and Chihuly Gardens and Glass are top destinations for the art scene, while the Museum of Flight and MOHAI, the Museum of History and Industry, offer a glimpse into how technology has shaped Seattle.

## Where to Stay

The Hyatt Regency Seattle is the host hotel for CEU 2019. The largest hotel in the Pacific Northwest, the Hyatt just opened its doors in 2018. Located in the heart of downtown, the polished high-rise hotel features airy quarters, a steakhouse, and a gym.

The hotel's Andare Kitchen + Bar is a fast-casual Italian eatery featuring wood-fired pizza and fresh salads, as well as a tempting happy hour in the evenings.

## What to Eat

Seattle is known for its coffee, but that's only one part of its culinary culture. It's hard to beat the Pacific Northwest when it comes to fresh ingredients, forward-thinking chefs, and an unparalleled dedication to all things local. Often referred to as

# Sacred Grounds in Seattle

Regarded as a world center for coffee roasting, Seattle is full of coffee shops for every taste. Whether you like the sugary sweetness of a vanilla latte or the bold body of a double shot, Seattle is the place to get your caffeine fix.

## Bedlam

For a taste of old Seattle, head to the north end of downtown to Bedlam. You won't find foam art or over-sweetened syrups, just the real deal — espresso. Featuring comfy couches, plenty of tables, and even a piano, Bedlam gives off a living room feel while serving up coffee that is rich, complex, and full-bodied — not to mention, full of that caffeine you crave after a long day of travel.

## Espresso Vivace

"Espresso Vivace" translates loosely as great enthusiasm and excitement for espresso, the new world coffee. The birthplace of latte art, Vivace has been preparing the most beautiful coffee since opening its doors in 1988. But don't let that fool you. Just because their coffee looks great, doesn't mean it can't taste great too! The Café Nico is one of the most popular offerings at Vivace. This brew features a double shot of espresso with flavors of vanilla and orange and steamed half and half, served with an orange twist.

## The Station

A Beacon Hill icon, The Station is a place that welcomes diversity and makes everyone feel at home. Guests have said "if they don't know your name yet, they will soon," referring to husband and wife team Leona and Luis Rodriguez and their friendly baristas. The welcoming atmosphere is enough to draw a crowd, but the guests stay for the coffee. Classic drinks are offered at lower prices than at most coffee shops and even include free refills! Some of the most popular beverages include the D'Angelo (brown sugar latte), Coco Chanel (chai and coconut), and Bowl of Soul (Earl Grey, honey, vanilla, steamed milk).

## Starbucks

You can't mention Seattle without mentioning Starbucks. And although a lot of coffee aficionados may not claim that this chain serves up the best java, there's a reason the number of Starbucks locations has doubled over the past decade. The Pike Place Starbucks store, commonly called the Original Starbucks, is the first Starbucks, established in 1971 at Pike Place Market. Subject to design guidelines due to its historic significance, this store has kept its early appearance over time and is subject to design guidelines due to its historic significance. While commonly referred to as the first Starbucks location, the current address is the second for the Pike Place store. The first Starbucks cafe was located at 2000 Western Avenue from 1971 to 1976 before moving to 1912 Pike Place, its present location.


**Top: Original Starbucks store, the first Starbucks coffee store at Pike Place Public Market in Seattle, established in 1971.** *Photo by happycreator / Shutterstock.com.*
**Bottom: Latte art in foam at Seattle's world famous Pike Place Public Market.** *Photo by mikeledray / Shutterstock.com.*

Seattle's landmark fine-dining destination, Canlis has served up contemporary Pacific Northwest fare in a midcentury-modern home since 1950. The Walrus and The Carpenter highlights the region's fresh seafood, namely oysters, in one of the area's most buzzed-about small plate eateries.

For some of the city's best pizza, locals flock to Delancy, where the food is so delicious, no one gives a second thought to waiting the typical hour for a table. And James Beard restaurateur of the year for 2012, Tom Douglas has defined his own style of pizza with an applewood-fired oven and a distinctive, chewy-bubbly crust at Serious Pie. Famous for its weekend brunch serving up the city's best dim sum, Monsoon is a Vietnamese restaurant that focuses on the highest quality ingredients in westernized recipes.

There is always something delicious around every corner in Seattle to please even the pickiest of taste buds!

As CEU travels from sea to shining sea, attendees have the option to attend this can't-miss event at two of the most sought-after destinations in the U.S. Make your reservation now and start planning a trip to never forget! EN

—CARSON IS A BIRMINGHAM, ALA.-BASED WRITER. SHE WROTE ABOUT LAB SAFETY PRODUCTS IN THE JUNE ISSUE.

## Thursday, September 19

| | |
|---|---|
| 7:00 AM | BREAKFAST |
| 7:45-7:55 AM | **Welcome and Introduction** |
| 7:55-8:25 AM | **Drug Holidays: What Patients and What Drugs?**<br>Joy N. Tsai, MD; Massachusetts General Hospital |
| 8:25-8:55 AM | **Fracture Healing**<br>Alan C. Dalkin, MD; University of Virginia Health System |
| 8:55-9:25 AM | **Osteoporosis in Men**<br>Thomas J. Weber, MD; Duke University Health System |
| 9:25-9:55 AM | **Transplant-Related Osteoporosis**<br>Ejigayehu G. Abate, MD; Mayo Clinic |
| 9:55-10:10 AM | **Q&A/Panel Discussion** |
| 10:10-10:25 AM | COFFEE BREAK/EXHIBITS |
| 10:25-10:55 AM | **Helping Patients Find Motivation for Lifestyle Change**<br>Scott Kahan, MD, MPH; National Center for Weight and Wellness |
| 10:55-11:25 AM | **What's New in Obesity Treatment?**<br>Donna H. Ryan, MD; Pennington Biomedical Research Center |
| 11:25-11:55 AM | **The New Cholesterol Management Guidelines**<br>Henry N. Ginsberg, MD; Columbia University Medical Center |
| 11:55 AM-12:10 PM | **Q&A/Panel Discussion** |
| 12:10-1:25 PM | LUNCH/EXHIBITS |
| 1:25-2:10 PM | **Meet-the-Professor Breakout Sessions**<br>**Overview of Rare Bone Disease**<br>Thomas J. Weber, MD; Duke University Health System<br>**Osteoporosis in the Oldest Old**<br>Ejigayehu G. Abate, MD; Mayo Clinic<br>**Pharmacotherapy for Weight Reduction**<br>Donna H. Ryan, MD; Pennington Biomedical Research Center<br>**Challenging Cases in Lipid Management**<br>Henry N. Ginsberg, MD; Columbia University Medical Center<br>**When Not to Use Testosterone in Men**<br>Bradley D. Anawalt, MD; University of Washington Medical Center<br>**HRT for Women**<br>Margaret E. Wierman, MD; University of Colorado School of Medicine |
| 2:10-2:25 PM | BREAK/EXHIBITS |
| 2:25-2:55 PM | **Hypogonadal Cases**<br>Bradley D. Anawalt, MD; University of Washington Medical Center |
| 2:55-3:25 PM | **Testosterone Replacement Modalities: Pros, Cons, and Their Correct Use**<br>Shehzad S. Basaria, MD; Brigham & Women's Hospital |
| 3:25-3:40 PM | **Q&A/Panel Discussion** |
| 3:40-3:55 PM | COFFEE BREAK/EXHIBITS |
| 3:55-4:25 PM | **PCOS Treatment**<br>Andrea E. Dunaif, MD; Icahn School of Medicine at Mount Sinai |
| 4:25-4:55 PM | **Controversies in the Treatment of Women with Menopausal Hormones**<br>**Panelists:** Margaret E. Wierman, MD; University of Colorado School of Medicine<br>Cynthia Stuenkel, MD; University of California, San Diego<br>**Moderator:** Andrea E. Dunaif, MD; Icahn School of Medicine at Mount Sinai |
| 4:55-5:10 PM | **Q&A/Panel Discussion** |
| 5:10-5:15 PM | BREAK |
| 5:15-6:00 PM | **Meet-the-Professor Breakout Sessions (Repeated)** |
| 6:00-7:00 PM | WELCOME RECEPTION/EXHIBITS |

## Friday, September 20

| | |
|---|---|
| 7:00 AM | BREAKFAST |
| 7:45-7:50 AM | **Welcome and Introduction** |
| 7:50-8:30 AM | **Diabetes on a Budget**<br>Marie E. McDonnell, MD; Brigham and Women's Hospital |
| 8:30-9:00 AM | **Contemporary Management of T1D in Pregnancy**<br>Denice Feig, MD, MSc; University of Toronto |
| 9:00-9:30 AM | **Update on Diabetic Nephropathy**<br>Robert C. Stanton, MD; Joslin Diabetes Center |
| 9:30-9:45 AM | **Q&A/Panel Discussion** |
| 9:45-10:00 AM | COFFEE BREAK/EXHIBITS |
| 10:00-10:30 AM | **Glycemic Management after Bariatric Surgery**<br>Mary-Elizabeth Patti, MD; Joslin Diabetes Center |
| 10:30-11:00 AM | **Safety of Novel Agents in T2D Management**<br>Carol Wysham, MD; Rockwood Center for Diabetes |
| 11:00-11:30 AM | **Challenges with Technology: Difficult Pump and CGM Cases**<br>Anders L. Carlson, MD; International Diabetes Center |
| 11:30-11:50 AM | **Q&A/Panel Discussion** |
| 11:50 AM-1:10 PM | LUNCH/EXHIBITS |
| 1:10-1:55 PM | **Meet-the-Professor Breakout Sessions**<br>**Treatment of Diabetes in the Elderly**<br>Anders L. Carlson, MD; International Diabetes Center<br>**Revisiting Old Drugs for T2D**<br>Marie E. McDonnell, MD; Brigham and Women's Hospital<br>**Challenges in the Evaluation and Management of Hypoglycemia**<br>Mary-Elizabeth Patti, MD; Joslin Diabetes Center<br>**Pancreatogenic Diabetes**<br>Melena Bellin, MD; University of Minnesota Medical School<br>**Adrenal Cushing Diagnosis and Management**<br>Lynnette K. Nieman, MD; National Institutes of Health<br>**Adrenal Incidentaloma: Challenging Cases**<br>William F. Young, Jr., MD; Mayo Clinic |
| 1:55-2:05 PM | BREAK/EXHIBITS |
| 2:05-2:35 PM | **Challenges of Managing Paraganglioma and Pheochromocytoma**<br>Lauren Fishbein, MD, PhD; University of Colorado Denver School of Medicine |
| 2:35-3:05 PM | **Adrenal Questions and Answers**<br>William F. Young, Jr., MD; Mayo Clinic |
| 3:05-3:35 PM | **Diagnosis and Management of Adrenal Insufficiency**<br>Lynnette K. Nieman, MD; National Institutes of Health |
| 3:35-3:55 PM | **Q&A/Panel Discussion** |
| 3:55-4:15 PM | COFFEE BREAK/EXHIBITS |
| 4:15-5:00 PM | **Meet-the-Professor Breakout Sessions (Repeated)** |
| 5:00 PM | **Adjourn** |

**Tourists admire the glass flowers in the conservatory sunlight of the Chihuly Garden and Glass Museum.**
***Photo by steve estvanik / Shutterstock.com***

Seattle skylines in blue hour. *Photo by Trong Nguyen / Shutterstock.com.*

## DAY 3 Pituitary and Thyroid

# CEU SEATTLE

## Saturday, September 21

| | |
|---|---|
| 7:00 AM | BREAKFAST |
| 7:45-7:55 AM | **Welcome and Introduction** |
| 7:55-8:25 AM | **Cushing's Disease: Update on Treatment**<br>Maria Fleseriu, MD; Oregon Health and Science University |
| 8:25-8:55 AM | **Non-Functioning Pituitary Adenomas**<br>Shlomo Melmed, MD; Cedars-Sinai Medical Center |
| 8:55-9:25 AM | **Prolactinomas: Special Topics**<br>Laurence Katznelson, MD; Stanford University School of Medicine |
| 9:25-9:40 AM | **Q&A/Panel Discussion** |
| 9:40-9:55 AM | COFFEE BREAK |
| 9:55-10:40 AM | **Meet-the-Professor Breakout Sessions**<br>**Hypophysitis: Etiology and Management**<br>Maria Fleseriu, MD; Oregon Health and Science University<br>**Diagnosis and Management of Hyponatremia**<br>Joseph G. Verbalis, MD; Georgetown University Medical Center<br>**Graves' Orbitopathy**<br>George J. Kahaly, MD, PhD; Johannes Gutenberg University Medical Center<br>**Treatment Options for Advanced Thyroid Cancer**<br>Stephanie Fish, MD; Memorial Sloan Kettering Cancer Center<br>**Molecular Markers in the Workup of Thyroid Nodules**<br>Matthew Ringel, MD; The Ohio State University Comprehensive Cancer Center<br>**Preconceptual Counseling for Women with Thyroid Disease**<br>Elizabeth N. Pearce, MD, MSc; Boston University Medical Center |
| 10:40-10:50 AM | BREAK/EXHIBITS |
| 10:50-11:20 AM | **Risk Stratification in Thyroid Cancer**<br>Stephanie Fish, MD; Memorial Sloan Kettering Cancer Center |
| 11:20-11:50 AM | **Diagnosis and Management of Graves' Hyperthyroidism**<br>George J. Kahaly, MD, PhD; Johannes Gutenberg University Medical Center |
| 11:50-12:05 PM | **Q&A/Panel Discussion** |
| 12:05-1:20 PM | LUNCH |
| 1:20-2:05 PM | **Meet-the-Professor Sessions (Repeated)** |
| 2:05-2:10 PM | BREAK/EXHIBITS |
| 2:10-2:40 PM | **Clinical Update on Thyroid and Pregnancy**<br>Elizabeth N. Pearce, MD, MSc; Boston University, School of Medicine |
| 2:40-3:25 PM | **Unusual Thyroid Function Tests: Cases to Panelists**<br>Stephanie Fish, MD; Memorial Sloan Kettering Cancer Center<br>George J. Kahaly, MD, PhD; Johannes Gutenberg University Medical Center<br>Elizabeth N. Pearce, MD, MSc; Boston University Medical Center |
| 3:25-3:30 PM | **Closing** |


Pike Place Public Market in Seattle.
*Photo by f11photo / Shutterstock.com.*

# EBR SEATTLE

## DAY 1

### Tuesday, September 17

| | |
|---|---|
| 7:00-8:00 AM | BREAKFAST |
| 8:00–8:15 AM | **Welcome and Overview of the Certification Process** |
| 8:15–10:00 AM | **Diabetes Board Review (Part 1)**<br>Serge A. Jabbour, MD |
| 10:00–10:15 AM | BREAK |
| 10:15–11:45 AM | **Pituitary Board Review**<br>Laurence Katznelson, MD |
| 11:45 AM–1:00 PM | LUNCH |
| 1:00–2:45 PM | **Calcium and Bone Board Review**<br>Carolyn B. Becker, MD |
| 2:45–3:00 PM | BREAK |
| 3:00–4:45 PM | **Obesity/Lipids Board Review**<br>Andrea D. Coviello, MD |
| 4:45–5:00 PM | **Wrap-Up**<br>Serge A. Jabbour, MD |

## DAY 2

### Wednesday, September 18

| | |
|---|---|
| 7:00-8:00 AM | BREAKFAST |
| 8:00–9:45 AM | **Diabetes Board Review (Part 2)**<br>Michelle F. Magee, MD |
| 10:00–10:15 AM | BREAK |
| 10:00–11:30 AM | **Adrenal Board Review**<br>Richard Auchus, MD, PhD |
| 11:30 AM–12:30 PM | LUNCH |
| 12:30–1:45 PM | **Female Reproduction Board Review**<br>Kathryn A. Martin, MD |
| 1:45–3:00 PM | **Male Reproduction Board Review**<br>Frances J. Hayes, MBBCh BAO |
| 3:00–3:15 PM | BREAK |
| 3:15–5:00 PM | **Thyroid Board Review**<br>Elizabeth N. Pearce, MD |
| 5:00–5:15 PM | **Wrap-Up**<br>Serge A. Jabbour, MD |

# CEU
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# 2019

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ENDOCRINE SOCIETY

CLINICAL PRACTICE GUIDELINES
FROM THE ENDOCRINE SOCIETY

# *Pharmacological Management of Osteoporosis in Postmenopausal Women*

## A NEW STANDARD FOR CARE

Get the latest recommendations on how to promptly diagnose, treat, and provide ongoing care for postmenopausal women to help prevent osteoporosis and reduce the likelihood of fractures.

**Recommendation Highlights:**

- Treat postmenopausal women at high risk of fractures with pharmacological therapies, as the benefits outweigh the risks.
- Prescribe initial treatment with bisphosphonates to reduce fracture risk.
- Reexamine fracture risk after three to five years in women taking bisphosphonates. Women who remain at high risk of fractures should continue therapy, while those who are at low-to-moderate risk should be considered for a “bisphosphonate holiday.”

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