

MAY 2013

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

# ENDOCRINE NEWS

## Shell Shock: THE HIGH COST OF MAKING BABIES

ELECTRONIC HEALTH RECORDS: Pro & Con

CAPTURING PATIENT DATA in Real Time

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# Victoza® vs sitagliptin—dig deeper into the differences.

Victoza® works like natural GLP-1 to treat type 2 diabetes.<sup>1</sup>

After 52 weeks—



## Greater HbA<sub>1c</sub> reductions vs sitagliptin

1.3% with Victoza® 1.2 mg to 1.5% with  
Victoza® 1.8 mg vs 0.9% with sitagliptin 100 mg<sup>2\*</sup>



## Greater weight reductions vs sitagliptin

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Victoza® 1.8 mg vs 1.2 kg with sitagliptin 100 mg<sup>2†</sup>



More than 600,000 patients worldwide  
have been prescribed Victoza®.<sup>3</sup>

\*Victoza 1.2 mg + metformin (n=155); Victoza 1.8 mg + metformin (n=176); vs sitagliptin 100 mg + metformin (n=166) over 52 weeks.

<sup>1</sup>\*Victoza 1.2 mg + metformin (n=155); Victoza 1.8 mg + metformin (n=176); vs sitagliptin 100 mg + metformin (n=166) over 52 weeks.

**References:** 1. Victoza® [summary of product characteristics]. Bagsværd, Denmark: Novo Nordisk A/S; 2012. 2. Pratley R, Nauck M, Bailey T, et al; for the 1860-LIRA-DPP-4 Study Group. One year of liraglutide treatment offers sustained and more effective glycaemic control and weight reduction compared with sitagliptin, both in combination with metformin, in patients with type 2 diabetes: a randomised, parallel-group, open-label trial. *Int J Clin Pract.* 2011;65(4):397-407. doi:10.1111/j.1742-1241.2011.02656.x. 3. Internal calculations based on IMS Midas Quantum data, May 2012.

### Prescribing information

Victoza® (liraglutide) 6 mg/ml solution for injection in pre-filled pen

Victoza® 3 ml pen

1 ml of solution contains 6 mg of liraglutide.

**Indication:** Treatment of adults with type 2 diabetes mellitus in combination with metformin or a sulphonylurea, in patients with insufficient glycaemic control despite maximal tolerated dose of metformin or sulphonylurea monotherapy; or in combination with metformin and a sulphonylurea, or metformin and a thiazolidinedione in patients with insufficient glycaemic control despite dual therapy. **Dosage:** Victoza® is administered once daily by subcutaneous injection and at any time independent of meals however it is preferable to inject around the same time of day. Victoza® should not be administered intravenously or intramuscularly. Recommended starting dose is 0.6 mg daily, after at least one week, the dose should be increased to a maintenance dose of 1.2 mg. Based on clinical response, after at least one week the dose can be increased to 1.8 mg. Daily doses higher than 1.8 mg are not recommended. When added to existing sulphonylureas or in combination with metformin and sulphonylureas, a reduction in the dose of sulphonylurea may be necessary to reduce the risk of hypoglycaemia. Victoza® can be used in the elderly (>65 years) without dose adjustment but therapeutic experience in patients ≥75 years is limited. No dose adjustment for patients with mild renal impairment (creatinine clearance (CrCl) 60–90 ml/min). Due to lack of therapeutic experience Victoza® is not to be recommended for use in patients with moderate (CrCl of 30–59 ml/min), severe (CrCl < 30 ml/min) and end-stage renal disease or patients with hepatic impairment or children <18 years. **Contraindications:** Hypersensitivity to the active substance or any of the excipients. **Warnings and Precautions for use:** Victoza® should not be used in patients with type 1 diabetes mellitus or for the treatment of diabetic ketoacidosis. Victoza® is not a substitute for insulin. The addition of Victoza® in patients already treated with insulin has not been evaluated and is therefore not recommended. Limited experience in patients with congestive heart failure New York Heart Association (NYHA) class I-II and no experience in patients with NYHA class III-IV. Due to limited experience Victoza® is not recommended for patients with inflammatory bowel disease and diabetic gastroparesis. Victoza® is associated with transient gastrointestinal (GI) adverse reactions. GLP-1 analogues have been associated with pancreatitis; patients should be informed of symptoms

of acute pancreatitis if pancreatitis suspected, Victoza® and other suspect medicinal products should be discontinued. Thyroid adverse events, including increased blood calcitonin, goitre and thyroid neoplasia reported in clinical trials particularly in patients with pre-existing thyroid disease. Risk of dehydration in relation to GI side effects; take precautions to avoid fluid depletion. No studies on effects on ability to drive and use machinery. Patients advised to take precautions to avoid hypoglycaemia while driving and using machines, in particular when Victoza® is used in combination with sulphonylureas. In the absence of compatibility studies Victoza® must not be mixed with other medicinal products. **Fertility, pregnancy and lactation:** If a patient wishes to become pregnant, pregnancy occurs or is breast feeding, treatment with Victoza® should be discontinued; use of insulin is recommended instead. Apart from a slight decrease in number of live implants in animal studies no harmful effects on fertility observed. **Undesirable effects:** The most frequently observed adverse reactions which varied according to the combination used (sulphonylurea, metformin or a thiazolidinedione) were: Very common ( $\geq 1/10$ ): nausea, diarrhoea, hypoglycaemia when used in combination with sulphonylureas, headache when used in combination with metformin and vomiting when used in combination with metformin and rosiglitazone; Common ( $\geq 1/100$  to  $<1/10$ ): vomiting, constipation, abdominal pain, discomfort and distension, dyspepsia, gastritis, flatulence, gastroesophageal reflux disease, gastroenteritis viral, toothache, headache, dizziness, nasopharyngitis, bronchitis, hypoglycaemia, anorexia, appetite decreased, fatigue and pyrexia. GI adverse reactions are more frequent at start of therapy but are usually transient. Patients >70 years or with mild renal impairment (CrCl 60–90 ml/min) may experience more GI effects. Consistent with medicinal products containing proteins/peptides, patients may develop anti-liraglutide antibodies following treatment but this has not been associated with reduced efficacy of Victoza®. Few cases of: angioedema (0.05%), acute pancreatitis ( $<0.2\%$ ), injection site reactions (usually mild, approx. 2%). Rates of thyroid adverse events - 33.5, 30.0 and 21.7 events/1000 subject years of exposure for liraglutide, placebo and total comparators; Thyroid neoplasms, increased blood calcitonin and goitres are the most frequently reported thyroid adverse events/1000 subject years of exposure were 6.8, 10.9 and 5.4 of liraglutide treated patients in comparison with 6.4, 10.7 and 2.1 of placebo treated and 2.4, 6.0 and 1.8 of total comparator treated. The Summary of Product Characteristics should be consulted for a full list of side effects. **MA numbers:** Victoza® 2 x 3ml pre-filled pensEU/1/09/529/002. Victoza® 3 x 3ml pre-filled pensEU/1/09/529/003. **Legal Category:** POM. **Basic NHS Price:** Victoza® 2 x 3ml pre-filled pens: £ 78.48. Victoza® 3 x 3ml pre-filled pens: £117.72. **Further prescribing information can be obtained from:** Novo Nordisk Limited, Broadfield Park, Brighton Road, Crawley, West Sussex, RH11 9RT. **Date created:** March 2012.

**Adverse events should be reported. Reporting forms and information can be found at [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard). Adverse events should also be reported to Novo Nordisk Limited (Telephone Novo Nordisk Customer Care Centre 0845 6005055). Calls may be monitored for training purposes.**

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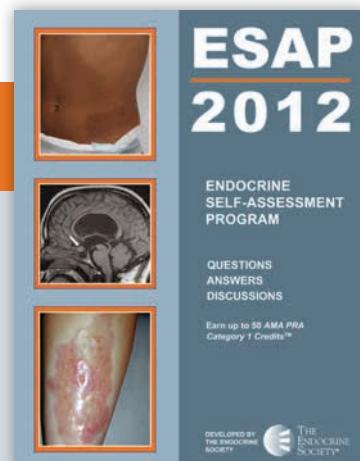
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By John Bohannon, PhD

Technology makes it easier for doctors to get patient data in real time. However, getting the patients to participate has been the biggest challenge.



## See You In SAN FRANCISCO!

**ENDO 2013: The Endocrine Society's 95th Annual Meeting & Expo** is fast approaching. A highlight of my presidential term has been working closely with the Annual Meeting Steering Committee (AMSC) and Society staff to plan this exciting meeting. Under the outstanding leadership of its chairs, Diane Robins, Daniel Marks, and Michael Tuttle, the AMSC has created a scientific program designed to meet the high expectations of our diverse membership.

With about 2,800 abstracts and more than 250 sessions, the ENDO program reflects the latest advances across the spectrum of endocrinology, from basic and translational research to clinical research and practice. San Francisco is a fitting venue for the meeting because it is one of the epicenters of endocrine research. It is also a world-class travel destination. Between the outstanding scientific program and the many opportunities for interaction, **ENDO 2013** promises to be one of our most successful meetings yet.

A few highlights of this year's meeting include:

- **Diabetes Diagnosis & Management (DDM)**

The Friday before ENDO officially begins, the Society offers this full-day program in recognition of the worldwide epidemic of diabetes. DDM provides an in-depth discussion of current practice challenges and a state-of-the-art update for all who treat diabetes.

- **Early Career Forum**

Also on Friday, this full-day program (formerly Endocrine Trainee Day) offers opportunities for fellows and students to interact with their peers and be inspired by recognized leaders from our endocrine community.

- **Featured Poster Presentations**

Presenters with the highest-scoring poster abstracts will each have 3 minutes to review three slides highlighting the significance of their research. These sessions will take place immediately before oral sessions, on the same day the posters are presented.

- **Endocrine Year In ...**

Four recognized leaders will recap



William F. Young Jr.,  
MD, MSc

the most important advances of the year in their areas of investigation: Steven Sherman in thyroid cancer, Susan Smith in basic neuroendocrinology, Lynn Jorde in genomics, and Graeme Milligan in G protein-coupled receptors.

- **Endocrinology in the News**

This special session will focus on interactions between scientists and the media. Robert Lustig, a pediatric endocrinologist critical of high-fructose corn syrup in processed foods, and Tyrone Hayes, well-known for his work in endocrine disruptors, will discuss their research and media experiences with Joe Palca, science correspondent for National Public Radio.

- **Master Clinicians Session**

**ENDO 2013** will feature three of these highly popular sessions in which experienced clinical endocrinologists present their most challenging cases to endocrine "experts." This year's sessions cover adrenal nodules, type 2 diabetes mellitus, and osteoporosis. Come and enjoy these lively and informative exchanges.

The Expo is the hub of activity during the meeting and home to exhibits, posters, cafes—places to lounge and network with your colleagues. Start each morning with a complimentary cup of coffee, and grab lunch at the Expo while you peruse the posters and exhibits.

Don't forget to sign up a team for the fourth annual *ENDO Trivia Cup Challenge*, moderated by Brad Anawalt and Jon Levine. This event is entertaining and lighthearted and will test your endocrine knowledge!

As you may know, the AMSC solicits programming suggestions for ENDO from our membership each year. We received excellent suggestions for **ENDO 2013**, and I thank those of you who provided valuable input. Please note that

the **16th Annual International Congress of Endocrinology/ENDO 2014** suggestion site will open at our San Francisco meeting and will be available on all *ENDO Connect* computers during the meeting. AMSC will be eager to receive your input.

I look forward to seeing you in San Francisco for a very successful ENDO!

Please share your comments, questions, and ideas by sending them to me via [president@endo-society.org](mailto:president@endo-society.org). **EN**

William F. Young, Jr., MD  
President, The Endocrine Society



MAY 2013

# ENDOCRINE news

THE LEADING MAGAZINE FOR ENDOCRINologists

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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.

The mission of *The Endocrine Society* is to advance excellence in endocrinology and promote its essential and integrative role in scientific discovery, medical practice, and human health.

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**H**opefully this issue of *Endocrine News* will find you fully thawed out from the winter that stuck around like an unwanted houseguest. This is my debut issue as the magazine's Managing Editor and I think we've got a nice array of topics to keep you eagerly turning the pages.

Our cover story, "The Cost of Making Babies," touches on an important area of endocrinology and one that has become more and more controversial as its popularity has increased: fertility. With IVF and other procedures costing anywhere from \$10,000 to over \$100,000, the science of fertility has become a multi-billion dollar business. And since insurance companies rarely cover these procedures, many hopeful parents are squandering their nest eggs to pay for them. The article delves into the murkier aspects of the fertilization business where success rates are sometimes questionable, yet the prices are out of reach for many infertile couples (page 14).

"Going Paperless" touches on the same issue affecting physicians that's affecting all professions across the board: getting rid of paper records and switching to electronic formats. While smaller practices have concerns about the cost, switching to electronic health records (EHR) is definitely the direction the process is headed. However, like everything that surrounds adopting technology the concerns about a number of "what ifs" abound: return on investment, technical glitches, patient privacy, etc. Ultimately, physicians need to find a way to get actively involved and have a voice in the product development so that many of these issues are eliminated – or at least reduced – with a single, standardized system (page 20).

Another article that explores new technology is the Practice Resources column, which concerns mobile devices that deliver data from patient to doctor in real time. Writer John Bohannon discusses his own father's struggle with diabetes and the constant need to measure his blood sugar. Despite the advances in technology and how easy the measurements and communication become, it is still up to the patient to use the product effectively, and that may be the real challenge (page 26).

If you have any comments or suggestions, please feel free to reach out to me at [mnewman@endo-society.org](mailto:mnewman@endo-society.org).

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



Mark A. Newman,  
Managing Editor

### Corrections

In "Osteoporosis' Silent Risk" in the March issue, the sidebar labeled 'Which MEDS Work' listed Fosamax and Reclast along with Zoledronic acid. However, Zoledronic acid is the nonproprietary name for the same compound marketed at a certain dose with the brand name Reclast.

Also within the same story, one reader took issue with the statement that diet and exercise were an important treatment rather than simply being a preventive measure. The same reader noted that Mission Pharmacal – stated as pursuing a bisphosphonate that would not cause stomach distress – is no longer in business.

*Endocrine News* regrets the errors.

## Less TV, MORE SPERM

Too much TV watching not only affects the mind—it can also impact sperm levels, according to a recent study in the *British Journal of Sports Medicine*.

Sperm quality has sunk over the past decades in most Western countries. One possible factor for this is an increase in sedentary behavior. Audrey J. Gaskins, a doctoral candidate at the Harvard School of Public Health in Boston, decided to put



this claim to the test. Her research team collected sperm samples from 189 men aged 18–22 years and queried them on the time they spent exercising and watching television over the last three months, the average time it takes to create sperm.

On average, the men spent from five to 14 hours exercising and four to 20 hours a week in front of the television. Men who exercised more and spent less time in front of the television screen had higher total sperm count and sperm concentration. Those who exercised more than 15 hours a week had 73 percent higher sperm concentrations than those who only exercised five hours per week. Similarly, men who watched television more than 20 hours a week had almost half the sperm concentration of those who never channel-surfed. “A more physically active lifestyle may improve semen quality,” the authors wrote, adding that spending too much time on the couch possibly increases scrotal temperature and leads to lackluster sperm.

—Jacqueline Ruttimann Oberst, PhD

## Soak Up Some RAYS

New research suggests just one hour more of sunlight every day can have healthy rewards. Greek researchers led by Natalia Vallianou of the General Hospital of Athens Polyklinikiki, studied 490 healthy Caucasian adults over age 35 who lived in the urban area of Athens. Participants were ques-

tioned about their dietary and lifestyle habits, including daily amount of time spent outdoors. Biomarkers were measured after a 12-hour fasting period.

After allowing for several behavioral and biological factors including age, BMI, smoking habits, and hemoglobin, researchers reported that one hour more of daily sunlight exposure lowered

the chances of having vitamin D deficiency, considered less than 20 ng/mL, by 70 percent compared to adequate levels. Those with vitamin D levels less than 20 ng/mL had an average of 8 daily hours of sun exposure compared with those with levels 20–30 ng/mL who had about 9.3 daily hours.

**Even a slight increase in sunlight exposure could have beneficial effects on serum vitamin D concentrations and eventually on hemoglobin and inflammatory marker levels, providing a simple and inexpensive lifestyle intervention that promotes public health, writes the researchers in their paper published in the *Central European Journal of Public Health*.**

—Glenda Fauntleroy

## Stop Smoking Now, Despite WEIGHT GAIN

American smokers typically gain 9 to 11 pounds in the first year after they kick the habit, which can lead to an increased risk for cardiovascular disease (CVD). For diabetes patients, it can also lead to poor glucose control.

Weighing in on whether or not the increased risk for CVD dissipates over time, Carole Clair, MD, now at the University of Lausanne, Switzerland, analyzed the four-year weight gain seen in adults with and without diabetes who quit smoking and incidence of six-year cardiovascular events.

Smokers without diabetes experienced the most cardiovascular events—5.89 for every 100 examinations. Recent quitters ( $\leq 4$  years) had 3.22 such events and long-term quitters ( $> 4$  years) had 3.06 events. Nonsmokers had only 2.43 events.

As expected, those with diabetes had higher numbers. Smokers in this group had 5.12 events, compared with 3.93 for recent quitters and 2.32 for long-term quitters. The overall trends suggest that these benefits offset the risk associated with weight gain.

“Cigarette smoking has short- and long-term cardiovascular effects that are reversible shortly after cessation,” the authors write in their article published in *JAMA*, citing examples such as a decrease in triglycerides and high density-lipoprotein cholesterol.”

—Jacqueline Ruttimann Oberst, PhD

## BISPHENOL A Linked to Childhood Asthma

Add asthma to bisphenol A (BPA)'s ever-expanding list of health offenses, which include obesity, cancer, and infertility. More than 90 percent of U.S. children have trace levels of it in their urine.

This latest link came from a study published in the *Journal of Allergy and Clinical Immunology*.



A research team led by Kathleen M. Donohue, MD, at Columbia University in New York City, measured levels of BPA in the urine of 568 inner-city mother-child pairs—from mothers during the third trimester of their pregnancy and from their children at ages three, five, and seven years. From five to seven years of age, the children also answered questions about their wheezing history over the previous year. Between ages five and 12 years, the doctors determined whether a diagnosis of asthma was warranted.

The authors found that BPA exposure at ages three, five, and seven years was associated with increased wheeze at ages five, six, and seven years, and increased asthma between ages five and 12 years. The children had roughly the same BPA levels as the average for U.S. kids, indicating that even low doses could trigger asthma. The finding could partially explain the skyrocketing rates of asthma that has recently happened worldwide, beginning in the 1980s. One out of every 10 U.S. children has been diagnosed with asthma, according to 2011 data from the U.S. Centers for Disease Control and Prevention. In black U.S. children, that rate is even higher—one out of every six.

—Jacqueline Ruttimann Oberst, PhD

## ATHEROSCLEROSIS Not a Modern Ailment

Thought to be a modern plague related to our sedentary lifestyle, atherosclerosis also burdened our ancestors. A team led by Randall C. Thompson, MD, at Saint Luke's Mid America Heart Institute of the University of Missouri-Kansas City School of Medicine, first found evidence of the artery-clogging disease in 20 of 44 ancient Egyptian mummies. They then asked whether the disease afflicted other ancient societies, including those that had different diet and genetic makeup to ancient Egyptians.

In a study named HORUS, from the ancient Egyptian deity of sun, war, and protection, the group conducted whole-body CT analysis of 137 mummies from four different ancient populations—76 ancient Egyp-

tians; 51 Peruvians; five Ancestral Puebloans of the U.S. Southwest, and five Unangan of Alaska's Aleutian Islands.

The findings, published in *Lancet*, revealed hardened arteries, indicated as calcium deposits or bright spots on the scan, in over a third—47 out of 137—of the mummies. Atherosclerosis was present in all four populations: 29 (38%) of 76 Egyptians, 13 (25%) of 51 Peruvians, two (40%) of five Ancestral Puebloans, and three (60%) of five Unangan.

The results lend further credence to the authors' earlier claim that emulating preindustrial man's lifestyle would not necessarily avoid hardened arteries in today's man. The popular "Paleo diet," which patterns the eating habits of our ancestors by eating fish, grass-

raised meats, fruits, and vegetables and eschewing grains and refined sugars, may not be the antidote for heart disease after all. However, the scientists do recommend "eating a healthy diet and exercising," said Thompson, whose team hopes to examine tissue and gene samples from these mummies to identify underlying risk factors for the disease.

"We may have less control over getting atherosclerosis than some would have us believe, but that is all the more reason to control the risk factors that can be controlled," he added.

—Jacqueline Ruttimann Oberst, PhD



## Sleep Restriction's ILL EFFECTS

Chronic sleep deprivation, besides being no fun at all, as parents and medical residents everywhere can attest, may lead to metabolic, heart, and cognitive problems, suggesting that these biologic processes operate on a temporal basis.

Recently, scientists led by Derk-Jan Dijk, BSc, MSc, PhD, FSB, at the University of Surrey, United Kingdom, investigated the mechanisms underlying the adverse effects that insufficient sleep wreaks on health.

In their paper first published online in *Proceedings of the National Academy of Sciences of the United States of America*, the researchers report that in 26 study participants allowed one week of 8.5 hours of sleep per day followed by one week of 5.7



hours of sleep per day, a whopping 711 genes associated with circadian rhythms (e.g., PER1), sleep homeostasis (e.g., PER2), oxidative stress (e.g., IL6), and metabolism (e.g., RORA) showed altered activity on whole-blood transcriptome analysis. Furthermore, they demonstrated that normally cyclic gene activity was disrupted, whereas many noncyclic genes began establishing daily patterns.

The researchers conclude that circadian disruption in metabolic and immune processes brought about by sleep deficit is possibly what leads to health problems. Future chronobiologic studies via the blood transcriptome will unlock additional pathophysiologic mechanisms, they add.

—Kelly Horvath

## ARTIFICIAL PANCREAS Attends Summer Camp

The artificial pancreas is one step closer to leaving the hospital entirely. A study at a diabetes camp found that the device had less nocturnal hypoglycemia and tighter glucose control than a sensor-controlled insulin pump.

For patients with type 1 diabetes, intensive insulin therapy with an insulin pump is the gold standard for tight glucose control. Yet it runs the risk of the patients developing hypoglycemic episodes. These episodes, when glucose bottoms out, typically occur at night and could result in seizures, even death.

Artificial pancreas systems, the computerized linking of glucose sensors with insulin pumps, could theoretically counter these nocturnal hypoglycemic attacks. Recent studies with children, adolescents, and adults have shown these systems to do just that—in a hospital setting.

To imbue some real-world experience to these machines, Moshe Phillip, MD, at the Schneider Children's Medical Center in Israel, led a study at three youth diabetes camps, one each in Israel, Slovenia, and Germany. These camps represented a “transitional” phase between the hospital setting and a child’s home. Their results are published in a recent issue of *The New England Journal of Medicine*.

For two consecutive overnight sessions, Phillip’s group randomized 56 type

1 diabetes patients 10 to 18 years of age into two groups. One group received treatment with an artificial pancreas on the first night and the usual treatment with a sensor-controlled insulin pump on the second. The other group had the reverse order of therapies on the first and second nights. Glucose levels

and number of hypoglycemic events were recorded for both groups.

**Patients experienced fewer hypoglycemic episodes and tighter glucose control on the days they used the artificial pancreas than the sensor-controlled insulin pump—definitely something to write home about.**

—Jacqueline Ruttimann Oberst, PhD

## Pancreatitis Risk Associated with EXENATIDE and SITAGLIPTIN

Type 2 diabetes patients on glucagon-like peptide 1 (GLP-1)-based therapies are at greater risk for acute pancreatitis than those not on these medications, claimed a recent *JAMA Internal Medicine* study.

GLP-1 mimetics, such as exenatide, and dipeptidyl peptidase 4 inhibitors, like sitagliptin phosphate, already had a spotty history. Both drugs caused acute pancreatitis in rodents and human studies remained inconclusive.

Sonal Singh, MD, at Johns Hopkins University, Baltimore, and his group decided to put this issue to



rest. The team conducted a database study, zeroing in on the hospital records of 2,538 adults with type 2 diabetes aged 18 to 64 years who were admitted for acute pancreatitis or for other diabetes complications. Patients who used sitagliptin or exenatide within the past 30 days or over two years had a two-fold greater chance of being admitted for acute pancreatitis than those on other diabetes drugs. Next, Singh’s group plans to see whether these acute episodes turn into chronic pancreatitis and pancreatic cancer.

—Jacqueline Ruttimann Oberst, PhD



## Breastfeeding Does Not Buffer Against OBESITY

For battling obesity, breast may not be best: A recent study from *JAMA* indicates that breastfeeding is unlikely to curb the obesity epidemic.

Breastfeeding confers many advantages to babies but its relationship with body composition and stature has so far remained tenuous. Babies suckle as much as the mother provides—too little and the mother may opt for formula which adds weight, too much and the mother ends up over feeding the baby.

Richard M. Martin, PhD, at the University of Bristol in England and his research team decided to base their study in a region previously known for low rates of breastfeeding—Belarus. They followed nearly 14,000 mothers and children who participated in an intervention trial to promote breastfeeding, measuring fat indices such as body mass index, waist circumference, skin thickness, and insulin-growth factor I, a hormone known to regulate height and weight.

Although infants who were breastfed gained more weight during their first three months of infancy than those who did not, at age 6.5 years, they showed no differences of these measurable signs of adiposity. The same was seen in these kids at age 11.5 years.

**Don't give up on breastfeeding just yet. Its other advantages are enough to justify public health efforts to promote it, claim the authors. The World Health Organization and the American Academy of Pediatrics advise exclusive breastfeeding for babies for the first six months.**

—Jacqueline Ruttimann Oberst, PhD

## rhGH THERAPY Improves Sleep

Patients with growth hormone deficiency suffering from nights of disturbed sleep can sleep better after treatment with recombinant human GH.

A new study appearing in the *European Journal of Endocrinology* evaluated 13 patients (ages 22–74

years) with untreated GH deficiency due to pituitary damage who had more slow-wave sleep and higher delta activity—leading

to poor sleep quality and daytime sleepiness. Participants received

a daily dose of rhGH therapy or placebo for two separate four-month observa-

tion periods. The

rhGH was administered 30 minutes before bedtime and doses were sex- and age-specific according to standard treatment guidelines for patients with GH deficiency. After rhGH treatment, patients had a shorter sleep time than at the end of the placebo

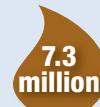
period (431 vs. 479 minutes, respectively).

"The decreased sleep duration induced by GH treatment in our patients can be interpreted as a recovery of the physiological mechanisms that control the sleep-wake cycle," reports lead researcher Lisa Morelli, MD, of the Sleep, Metabolism, and Health Center at the University of Chicago. "After GH treatment, our patients needed less sleep and felt better during the daytime." Morelli added that the study's results suggest GH treatment may contribute to the improvement in quality of life experienced by the patients.

—Glenda Fauntleroy



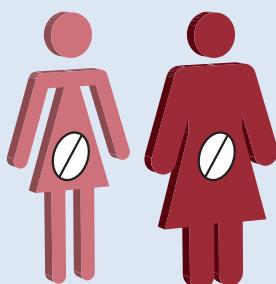
## Fast FACTS About Fertility



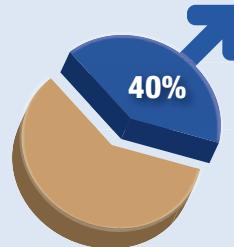
Infertility affects about 7.3 million women and their partners in the U.S. (12% of the reproductive-age population)



Up to 13 percent of female infertility is caused by cigarette smoking.



12% of all infertility cases are a result of the women weighing either too little or too much.



In approximately 40% of infertile couples, the male partner is either the sole cause or a contributing cause of infertility.

# THE COST OF Making BABIES

Fertility problems plague 10 to 15 percent of Americans—yet costs for treatments, egg donation, and surrogacy can reach \$100,000 for one child, making conceiving a child cost prohibitive for many.

By John Bohannon, PhD

**C**harles Coddington, MD, loves it when people ask him what he does for a living. “I get people pregnant,” he says with an impish chuckle. Recently, in one of the Mayo Clinic’s operating rooms in Rochester, Minnesota, Coddington delicately scooped up a human embryo and implanted it in the lining of a womb, providing a good chance at conception for a woman who otherwise would be infertile. That’s all in a day’s work for a fertility doctor. “It’s just about the neatest thing in the world,” he says.

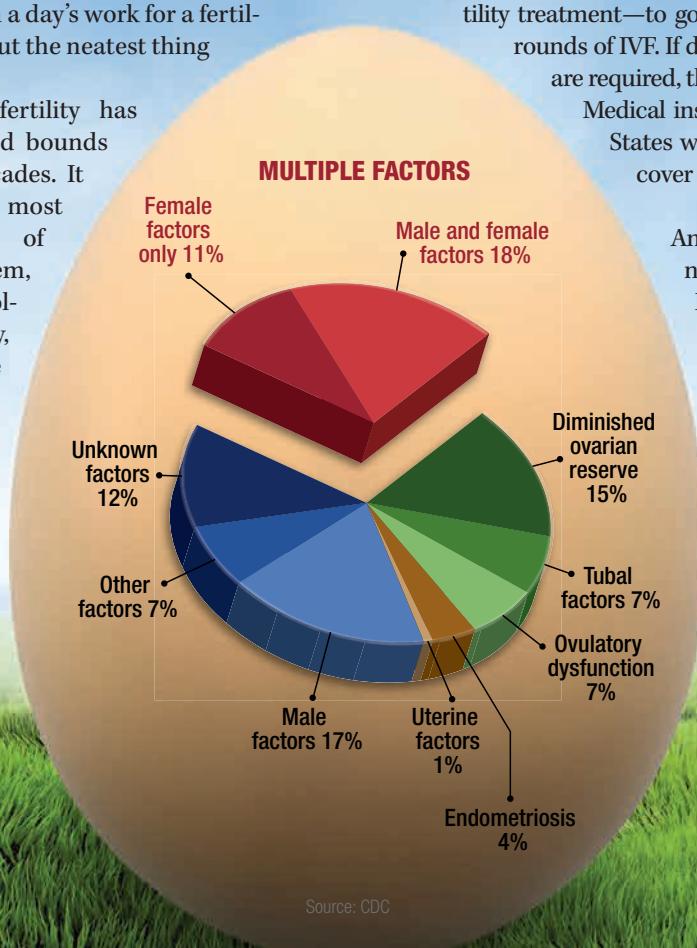
The science of fertility has improved by leaps and bounds over the past two decades. It involves some of the most intricate workings of the endocrine system, development, cell biology, and, increasingly, genetics. And yet, the collective field of assisted reproduction technology has struggled with a bad public image and

a polarizing public debate. At the heart of it is a nagging question: Is reproduction a right or a privilege?

It may seem like an abstract philosophical question, but it has very real consequences for people struggling to conceive a child. A typical round of in vitro fertilization (IVF) costs between \$10,000 and \$15,000, and it is not unusual for women in their 30s and 40s—the demographic most likely to seek fertility treatment—to go through as many as four or five rounds of IVF. If donated eggs or a surrogate womb are required, the costs skyrocket above \$100,000.

Medical insurance companies in the United States will not cover those costs, and will cover only a portion of IVF, if at all.

So the cold reality for infertile Americans is that their condition is not considered a disease, says Ann Kiessling, a fertility expert in Boston. “Certainly not like cancer or other life-threatening diseases.” And yet, especially for women, the deep-rooted urge to reproduce is inescapable. Critics charge the fertility industry with exploiting their desperation.



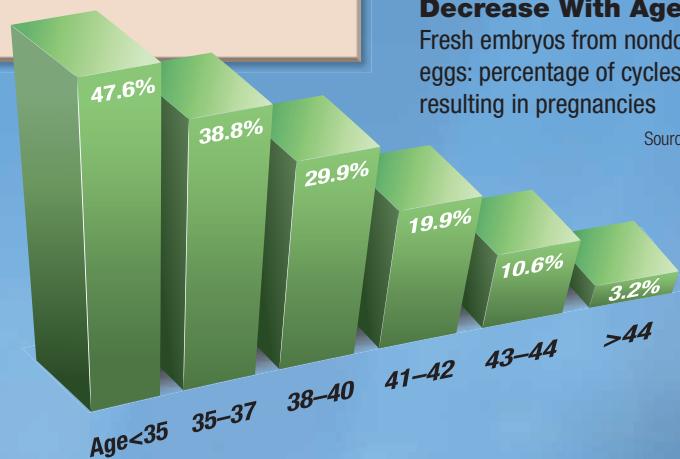
## AT-A-GLANCE:

- A typical round of in vitro fertilization (IVF) costs between \$10,000 and \$15,000.
- Insurance companies are rarely mandated to cover fertility treatments.
- The science of making babies needs the same type of scrutiny as cancer treatments and organ transplants, say some.

## IVF Success Rates Decrease With Age

Fresh embryos from nondonor eggs: percentage of cycles resulting in pregnancies

Source: CDC



## Growing Issue

The more you learn about human reproduction, the more surprising it is that anyone manages to make babies at all. Rather than getting delivered right to the waiting egg, sperm arrives somewhere between the vagina and the cervix. Scaling for their size, that means the sperm must swim for miles. And usually there is no egg even waiting for them, because unlike many mammal species, human women do not constantly ovulate.

Instead, the pituitary gland deep within the brain must send out hormonal orders in the form of follicle-stimulating hormone (FSH). Down in the ovaries, a batch of eggs starts maturing within the new follicles, which themselves broadcast estrogen. Once a mature egg has been produced, the pituitary gland releases luteinizing hormone, triggering the follicle to burst and release the egg. Only then does the journey down the fallopian tubes begin. If a sperm is lucky and strong enough to reach the egg, it gets one shot at fusing with the egg and donating its complement of DNA. But the fertilized egg still has to tumble on down to the uterus and successfully implant itself in the uterine lining. Only then does the even more complex process of development begin.

Considering that arrangement, it's less surprising that a large portion of couples have fertility problems. "Ten percent to 15 percent is a very fair estimate," says Coddington. And that proportion is on the rise. Both men and women are waiting longer to have children. The chances of conceiving and

giving birth to a healthy baby decrease with age. Also, gay and lesbian couples are increasingly seeking assistance with conception. So the technological approach to making babies will only become more common. Luckily, new techniques have vastly improved people's chances of success.

"Let's look at a typical case," says Coddington. "A 32-year-old woman walks in and says she is having trouble conceiving." Before diagnosing her, he gathers some basic but crucial information. Has she had a regular menstruation cycle? Are there complicating health factors? He also confirms that the woman and her partner are having sexual intercourse that can result in pregnancy. "That may sound crazy, but you'd be surprised," he says.

"The typical situation is that she has an irregular cycle, perhaps only four times in the past year; ultrasound reveals polycystic ovarian syndrome; and she is overweight. She

may be experiencing androgen-related problems, such as acne and stray hairs appearing on her face. This all points to an endocrine

A typical round of in vitro fertilization (IVF) costs between \$10,000 and \$15,000, and it is not unusual for women in their 30s and 40s to go through as many as four or five rounds of IVF. If donated eggs or a surrogate womb are required, the costs can skyrocket above

\$100,000.

## Assisted Reproductive Technology (ART) 2010 Data



147,260 ART cycles performed



443 clinics reported



47,090 live births  
(deliveries of one or more living infants)



61,564 infants

Source: CDC's 2010 ART Success Rates

imbalance, and it's very common," says Coddington.

The first step is to boost the chances of normal conception with drugs that stimulate ovulation. If that doesn't work, the next step could be a round of IVF. In normal ovulation, only one or two follicles fully mature and release eggs while the others recede and disappear. IVF begins with drugs that trigger all those extra follicles to mature, releasing as many as 20 eggs at once for harvesting.

It is now possible to directly inject sperm into the egg, boosting the chances of fertilization. Another significant advance is keeping embryos alive with better growth media. "In just the last eight to 10 years," says Coddington, "we have figured out how to grow embryos in vitro up to five days of development." Rather than just a cluster of eight identical cells, the embryo differentiates into the cells that will become the baby and those that form the placenta. By then, many of the defects that cause a pregnancy to fail can be spotted. That means fewer embryos need be implanted in the first place, lowering the risk of triplets and even higher multiples.

York City. He and others are casting a wary eye on the industry that has sprouted up around their profession.

"What is the success rate for IVF?" asks Klitzman. "It can vary, with lower success rates for older women. But older women may not fully realize that."

Over the past few years, Klitzman has surveyed the websites of U.S. fertility clinics to see how many uphold the recommendations of the American Society for Reproductive Medicine. The results are grim. At least half were noncompliant, not providing risks along with benefits. One-third of sites varied payment based on a donor's traits, and 41% allowed women younger than 21 to donate.

"What if a woman donates her eggs six times? What impact does that have on her own chances at pregnancy? We don't fully know," he says. And who gets access to all those donated eggs, rentable wombs, and high-tech IVF techniques?

"For the most part, it comes down to money," says Kiessling, because insurance companies are rarely mandated to cover it. "I think society owes couples with infertility appropriate medical treatment for a condition not of their doing," she says. In her view, that should include most biological causes. Kiessling started the first IVF clinic in Oregon 30 years ago, and then helped Harvard University develop its renowned IVF clinic at Brigham and Women's



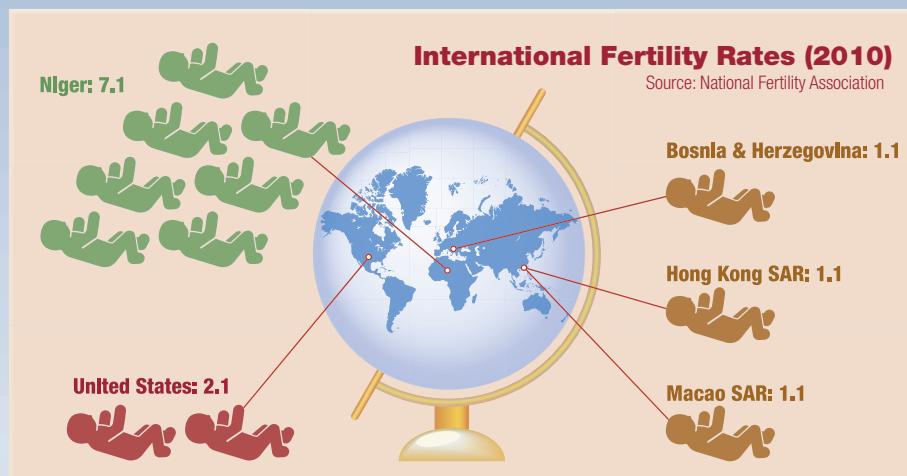
**"Couples with better health have a better chance to conceive."**

— Charles Coddington, MD, Mayo Clinic

Hospital. Her focus has been on HIV-infected couples, carefully separating out uninfected sperm and egg for IVF so that babies are born HIV-free.

But convincing both her peers and society at large to see reproduction as a right has not been easy. She sees this as a peculiarly American problem. “[U.S.] fertility treatment centers need to be brought back into mainstream medical practice,” says Kiessling. The science of making babies needs “the same type of scrutiny as cancer treatments and organ transplants. ‘Success rates’ should be replaced by ‘good medical care,’ which would eliminate rushing couples into high-tech treatments too soon and putting women at risk of multiple births. It would also allow more universal access to fertility care—as it is in Canada and parts of Europe—by holding down costs and limiting risks of multiple births.”

For his part, Coddington is optimistic that some of the American conundrum in assisted reproduction will work itself out. “The costs will go down as the success rates increase,” he says. And he has a theory that applies especially



to Americans. “Couples with better health have a better chance to conceive. As we reduce obesity, and blood pressure, and live healthier lives, fewer people will need help.” If he’s right, that would be two birds with one stone. **EN**

*—Bohannon is a freelance writer in Boston and a regular contributor to Endocrine News.*



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By Mark A. Newman

## THE SOCIETY LAUNCHES ENDOCRINE PRESS

The Endocrine Society has recently created its own publishing imprint, the Endocrine Press, which will be a home for books and other content that encompass the world of endocrinology.

"Endocrine Press is designed to be a diverse comprehensive book publishing program which will allow basic and clinical investigators and clinicians access to authoritative content on a variety of endocrine issues," Janet A. Schlechte, M.D., University of Iowa Hospitals and Clinics and chairperson of the Endocrine Press Task Force. "A longer term benefit will be the opportunity to provide primary care providers, allied health professionals and the public with trusted content on common endocrine disorders."

Not strictly a book publishing arm, Endocrine Press was created due to a variety of factors surrounding the flux in the medical publishing world caused by economics, technology, as well as the splintering and maturation of the science and practice of endocrinology. Therefore, it was deemed necessary to create this imprint to appeal to members and non-members alike. Aside from books, the imprint will also handle non-journal content and possibly an image library in the future.

"Endocrine Press will be the new home of all the peer-reviewed content published by the Endocrine Society that is suitable for citation," according to Maxine Aldred, Director, Books Development, Endocrine Press. "We will be exploring topics that we have not pursued in the past that will be suited for both the doctor as well the lay-person. It is information that both audiences can benefit from."

It has long been a goal of the Society to position itself as the trusted authoritative source of knowledge that drives sound health and science policy as well as informing the public. To that end, the Endocrine Press will provide an ideal vehicle for delivering such authoritative data to all market segments beyond the roster of Society member

rolls. Aside from reaching the desks of physicians across all practice spectrums, the materials from the imprint should connect with allied health professionals as well as the broader public.

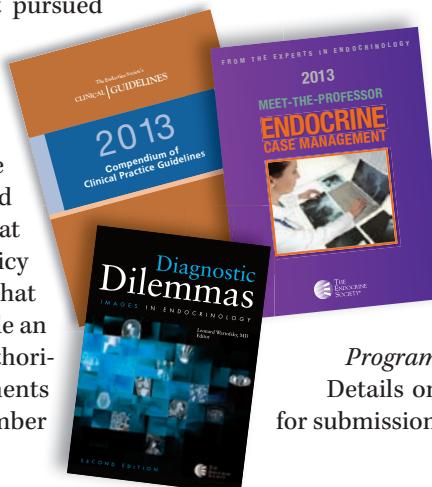
The development of Endocrine Press was also needed as a way to actively manage and maintain the Society's peer-reviewed published content with a centralized approach, according to Aldred. "We will be delivering content in formats the Society has never attempted before," she says, adding that the content will be available in print as well as in deliverable sources such as e-books, iPads, tablets, and even smart phones.

Another improvement from the Society's previous method of publishing is that the books' bibliographic records will be deposited in the Library of Congress. This benefits the Society by allowing its content to be accessed by a wider audience. "When your content is discovered by a librarian, they keep a record of it and it then goes out to a larger community," Aldred explains. "Discoverability will help raise the Society's awareness, because it allows more people to discover the content -- or at least the titles -- and it direct them back to the source." This also drives revenue since these new audience members know where to go when they want to purchase the content.

The Society is also pursuing relationships with outside sales agents, most notably Amazon.com and ebrary. While everyone knows Amazon's impact, ebrary is an international distributor of e-books to academic, professional, corporate and public libraries.

Some of the upcoming 2013 titles are *Diagnostic Dilemmas 2nd Edition, 2013 Meet-the-Professor: Endocrine Case Management, Clinical Practice Guidelines Compendium 2013, 2013 Endocrine Self-Assessment Program (ESAP)* and *2013 Pediatric Endocrine Self-Assessment Program (ESAP)*.

Details on how to submit a book proposal and calls for submissions will be released soon.





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You'll definitely want to get a good seat for the ENDOExpo Theater sessions. This year, we've got in-depth lunch and coffee sessions with ABSCLX, ImmunoDiagnostics Systems, IPSEN, Janssen Pharmaceuticals, Siemens, Veracyte, and Vivus, Inc. Grab lunch and learn what's coming next from these cutting-edge companies.

Of course, no visit to ENDOExpo is complete without a trip to the ENDO Store. Browse the latest publications, CME products, gifts, and T-shirts from The Endocrine Society.

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The Endocrine Society wants to help you optimize your ENDOExpo experience. Our Interactive Expo Planner allows you to keyword search for exhibits and bookmark booth locations on a map.

We'll also provide you with a helpful list of Attendee Dos and Don'ts so you can easily navigate the floor and engage with manufacturers in ways that get you the answers you want and are within industry regulations.

## Meet Your Colleagues

Walk down aisle after aisle of the latest and greatest in endocrine science posters, and discuss findings with the presenters themselves. Each day brings fresh findings on a new therapeutic area, so you'll want to visit often to talk to colleagues about their work, offer your own insights, and form new connections.

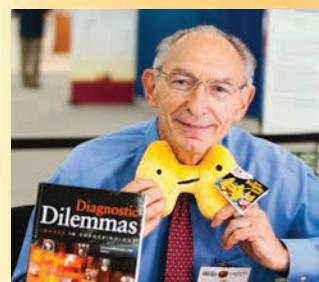
Speaking of connections, ENDOExpo is the best place to meet and network with peers and colleagues. Its central location in the Moscone Center serves as a launching pad for seeing all that the Expo and **ENDO 2013** have to offer. There's plenty of room to catch up over a cup of coffee or a delicious snack.

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The ENDO Wheel is back by popular demand. This year, there are two—so you won't have to wait long to take it for a spin and claim your prize.

Remember, ENDOExpo only lasts three days. Don't miss your opportunity to experience the products, science, games, and camaraderie that make this destination special. We'll see you there! **EN**

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- Earbuds and other gadgets
- Gift certificates for the ENDO Store
- T-shirts

# GOING PAPERLESS

When it comes to electronic health records, you'll find the good, the bad, and the simply incompatible

By Melissa Mapes

The end of days is near for paper charts in U.S. medical practices. With the federal mandate to switch to electronic health records (EHR) by 2015, the transition has become inevitable for the 28 percent of American physicians still handwriting patient evaluations.

The change has several compelling benefits: more efficient care, easier billing, and the ability to access a patient's medical history from any location. Ideally, the move to EHR should lower costs and improve patient outcomes, but electronic health records face several major concerns.

## Cost to Convert

The most obvious among the challenges are the upfront costs and the task of converting paper records. Researchers estimate that conversion takes six months to a year depending on the size of the practice. Most practitioners start with chronic disease patients because they come in most frequently, explains Dave Ludwick, PEng, MBA, PMP, PhD, COO of the Sherwood Park Primary Care Network in Alberta, Canada. Otherwise, physicians must simply decide how many years to go back and begin data entry.

Costs intimidate practitioners as well. With a \$15,000-\$70,000 investment on the line, choosing an EHR system can feel like a gamble, making many physicians hesitant to commit.

"Most often the benefits of adopting electronic medical records don't accrue to the physicians themselves," Ludwick says. Doctors must pay for the software license, the hardware, and the conversion process, but the patients and the insurance companies reap most of the benefits.

To counteract some expenses, physicians may apply for up to \$44,000 through Medicare or \$63,750 through Medicaid in reimbursements. Payment hangs on the contingency of meeting "meaningful use" standards, such as taking the proper security measures to protect electronic records and running drug interaction checks. Currently, only

about 40 percent of medical practices meet the minimum requirements of a basic EHR, according to the U.S. Centers for Disease Control and Prevention.

Other concerns have less-definitive solutions. What if the software company goes out of business? Can the confidentiality of patients be entrusted to a digital medium? What if the system crashes with 30 patients in the waiting room?

Unfortunately, none of these questions have perfect answers. Computers do occasionally crash, and practices must take care to avoid cyber security breaches. Back-up systems are an additional but often necessary expense. If a company goes out of business or merges with a larger organization, physicians may run into obstacles.

## A Failure to Communicate

The primary issue with electronic health records begins offline, says Dr. Ann O'Malley, Senior Fellow at the Center for Studying Health System Change (HSC) in Washington, D.C. "Most commercial records are not as useful

## AT-A-GLANCE:

- Twenty-eight percent of American physicians still handwrite patient evaluations.
- While the switch to EHR can lower cost and improve outcomes, concerns remain.
- Receiving electronic referrals and sharing patient data are critical for endocrine care in the digital age.

for clinical management of the patient and are more designed to maximize coding for billing purposes," she says, adding that she believes this is due to the pay-for-service-system in the U.S. "It really creates this incentive to document in a way that allows you to bill rather than focusing on making the EHR clinically useful."

Ludwick says programmers design the systems based on how they think medical offices should operate, and it is difficult to create a product that will work for each individual provider and specialty. Some larger organizations, like Kaiser, have built a custom EHR or EMR to suit their needs, but most practices can't afford this option.

Whether custom-built or "off-the-shelf," the different systems rarely communicate well. "Because EHR vendors are competing with one another, it is very difficult to get the records in one office to talk to the records in another office," O'Malley explains.

A single, standardized EHR program seems tempting under these circumstances, but would likely involve serious unintended consequences. Ludwick, an expert in electronic medical records and telehealth systems, used Scotland's migration to EHR as a cautionary tale.

Several years ago, the Scottish government chose a single system for the entire country to eliminate compatibility problems. "The vendor became very complacent within only a year or so and wasn't motivated to make any software improvements," Ludwick says. His own research indicates that a range of competitors is necessary. He claims a nation should have no less than three but no more than six pre-approved EHR programs in order to provide physicians with options while maximizing interconnectivity.

## COST Effectiveness

- An EHR system can be a \$15,000-\$70,000 investment
- Doctors must pay for the software license, the hardware, and the conversion process
- To counteract some expenses, physicians may apply for up to \$44,000 through Medicare or \$63,750 through Medicaid in reimbursements. Payment hangs on the contingency of meeting "meaningful use" standards
- Currently, only about 40 percent of medical practices meet the minimum requirements of a basic EHR

## A Cloudy Future?

The EHR options in the U.S. may seem endless, but, according to Ludwick, most systems offer the same basic functionality, varying widely in customer service instead.

A standout vendor has not emerged. "People are in all different phases of adoption and there is no one perfect EHR out there that meets both clinical and billing needs," adds O'Malley. The burden of choice thus falls on the provider.

Despite the initial challenges of going electronic, long-term results include many positives. O'Malley has interviewed doctors and staff who have been using off-the-shelf EHRs for at least two years, and discovered common benefits. "The biggest plus we hear is that data is easily accessible at the point of care for an individual patient." Physicians can read records online if working from home or find critical information at a moment's notice. Even a simple instant messaging function has proven very useful, allowing physicians and staff to communicate from different sides of the office.

Some expect the future of EHR data sharing will include a secure Cloud system that allows providers to access a patient's past records from any approved practice or hospital, O'Malley notes. For example, a person could arrive unconscious at an emergency room and his or her medical history would be instantly available to the physician. Ludwick concurs that such a system is in the future, and anticipates advances in telehealth as well, such as the ability for patients and doctors to remotely communicate.

For endocrinologists undergoing the EHR transition, O'Malley recommends lobbying vendors for electronic records that better support clinical care and improved compatibility among systems. Receiving electronic referrals and sharing patient data will be critical to endocrine care in the digital age. EHRs have enormous potential, but to resolve current issues, doctors need to take a greater role in the design. **EN**

—Mapes is a freelance writer in Washington, D.C., and a regular contributor to Endocrine News.



For additional links related to this feature, please visit Endocrine News Online at [www.endo-society.org/endo\\_news](http://www.endo-society.org/endo_news).

# Diabetes Takes Center Stage at INAUGURAL HEALTH DISPARITIES SUMMIT

By Mark A. Newman

The alarmingly high incidence of type 2 diabetes (T2DM) among minorities—especially blacks and Hispanics—was the compelling force behind the 2013 Reducing Health Disparities in Type 2 Diabetes Mellitus Summit, sponsored by The Endocrine Society, which took place in Baltimore March 22 and 23.

While T2DM can strike anyone, it takes a particularly heavy toll on minority groups, with it being twice as prevalent in African Americans, Hispanics, Native Americans, and Asian Americans as it is in whites, according to the Agency for Healthcare Research and Quality (AHRQ).

The summit—anticipated to be the first in a series—was the centerpiece of a Health Disparities Initiative started by Past President Janet Hall, MD, Massachusetts General Hospital, during her tenure last year. Hall, who opened the event, stated that the “broad goal [of the summit] is to bring

together thought leaders in health disparities and diabetes to have a meaningful discussion of what health disparities are trying to teach us from a scientific perspective and how we can best use the information that we have to provide the best possible treatment for our patients.”

Hall’s goal as the incoming president in 2011 was to focus the Society on health disparities in endocrinology. “We hadn’t done much of a deep dive into health disparities as part of our focus,” she says, adding that “there is a growing appreciation of the size of the issue of health disparities in endocrinology. We chose to focus our first Health Disparities Summit on type 2 diabetes because of the size of the patient population and the known impact of health disparities on diabetes.”

## United for One Goal

Indeed, T2DM was a hot topic as the summit saw speakers from such diverse institutions as Johns Hopkins, UCLA, the University of Alabama at Birmingham, the American Medical Association, the National Institutes of Health, the World Health Organization, the Food and Drug Administration, the University of Virginia, and many more. The speakers all discussed the efforts they and their institutions have made in addressing the seeming imbalance among ethnic and racial minorities and the incidences of T2DM in those populations.

One of the presentations noted that aside from minorities having less than optimal access to health care in many communities, they also tend to have worse insulin resistance and glucose metabolism than whites, according to Sherita Golden, MD, MHS, Johns Hopkins University. The result is a tendency for blacks and Hispanics to be overweight or obese, thus resulting in a higher incidence of T2DM.

Golden noted that these disparities are not solely in



Sherita Golden, MD, MHS, associate professor of medicine in the Division of Endocrinology, Johns Hopkins University in Baltimore; Louis Sullivan, MD, chairman of the board of the National Health Museum in Atlanta, and former U.S. Department of Health and Human Services Secretary; and Janet E. Hall, MD, Massachusetts General Hospital and immediate past-president of The Endocrine Society.

REDUCING  
HEALTH DISPARITIES  
AND IMPROVING CARE  
THROUGH ENDOCRINE SCIENCE

2013 Reducing Health Disparities in Type 2 Diabetes Mellitus Summit



Alfonso Alanis, MD, majority founding partner, CEO, and chairman of the board of Anaclim LLC in Indianapolis.

black and Hispanic populations; immigrant Asians as well as immigrant Hispanics also have a higher incidence of T2DM as they acclimate to Western culture. As they adapt, they tend pick up unhealthy habits, most notably alcohol and tobacco use as well as an increase in salt consumption often accompanied by a lack of exercise.

In many of these cases, the effects of T2DM are further accelerated due to a lower incidence of self-monitoring glucose levels in these groups. Golden added that a patient's culture should also inform that patient's treatment. As an example, she said that asking Asian patients to eliminate rice from their diet was culturally insensitive and would more than likely be unsuccessful.

## Food Swamps & Food Deserts

In her talk regarding the importance of advocacy and public health policy to improve T2DM disparities, Arleen Brown, MD, PhD, from the University of California, Los Angeles, spoke about communities that have a large minority population and the likelihood that those neighborhoods would be bereft of healthy foods. She spoke of "food deserts"—a lack of grocery stores that sell fruits, vegetables, and other healthier items. She also talked about "food swamps," areas where there are too many fast food restaurants or "too much of a bad thing."

Due to the relatively inexpensive food found in these "swamps" and the type of fare on the menus, these communities were also contributing factors to health disparities since they were often in less prosperous areas. Brown further emphasized that in order to provide adequate outreach to these underserved patient populations, local practicing clinicians should hire clinical staff who understand the local languages spoken as well as the cultural norms.

The second day of the summit was comprised of panel discussions made up of researchers and clinicians alike, many of whom spoke on the first day. A highlight of the final day of the summit was a discussion on the future of health disparities research that included former Health and Human Services Secretary Louis Sullivan, MD.

In addition to the speakers, the summit also hosted



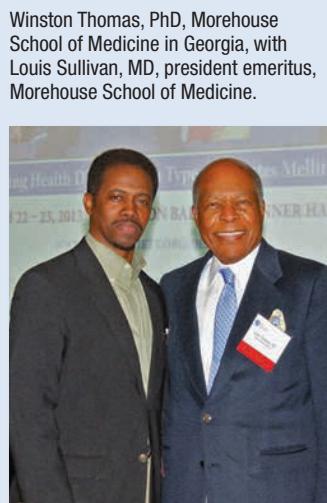
Jan Chacon, BS, CHES, diabetes prevention program manager of the Indian Health Center of Santa Clara Valley, discusses her poster with Scott Hunt, executive director and CEO of The Endocrine Society.

about a dozen poster exhibits, many of which took the science of health disparities and put them into practice. For example, one poster detailed the efforts of a grassroots project in Texas that exceeded its goals to get more minorities with diabetes to improve their self-management of the disease. Another poster discussed a project at the Indian Health Center in Santa Clarita, California, where, by using Diabetes Prevention Program protocols, over 40% of the clients with T2DM were able to lower their risk of complications from the disease with an improved quality of life.

Hall says she is pleased with the Summit's turnout and feels that it accomplished exactly what she hoped it would: bringing a variety of interested parties to the same table to get the discussion started. "This isn't just The Endocrine Society's issue," she says. "This isn't just the ADA's issue. This doesn't belong in any one specific interest group. Health disparities are a big problem that we all need to look at, study, and work together to combat." EN



Manny Hernandez, Diabetes Hands Foundation in Berkeley, presented the keynote speech on *Reducing Diabetes Health Disparities Through Social Media*.



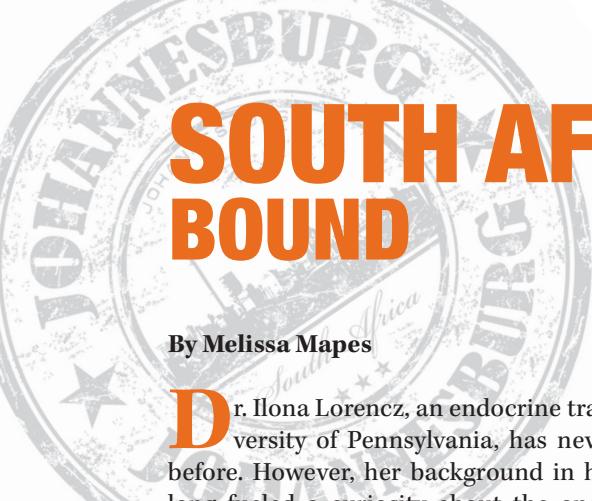
Winston Thomas, PhD, Morehouse School of Medicine in Georgia, with Louis Sullivan, MD, president emeritus, Morehouse School of Medicine.



Samuel Dagogo-Jack, MD, Professor of Medicine, director of the Division of Endocrinology, Diabetes, and Metabolism, and director of the Clinical Research Center at the University of Tennessee Health Science Center in Memphis.



Griffin Rodgers, MD, MACP, director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) in Bethesda.



# SOUTH AFRICA BOUND

*Endocrine Society's Ambassador Exchange Program sends two delegates for idea swapping*

By Melissa Mapes

**D**r. Ilona Lorenz, an endocrine trainee from the University of Pennsylvania, has never worked abroad before. However, her background in health services has long fueled a curiosity about the operations of foreign hospitals and how quality-management principles can be applied in different cultural settings. When offered the chance to accompany her attending, Dr. Susan Mandel, on an exchange to South Africa this April, she did not hesitate to accept.



Susan Mandel, MD, PhD, (left) and an endocrine trainee, Ilona Lorenz, MD, (below) from the University of Pennsylvania. "I'm hoping to gain experience of the way that diabetes is treated in South Africa, particularly what ethnic and cultural differences there are in management of diabetes," says Lorenz.

"I think it will really be fantastic. I really wanted to go when I was a resident but the timing never worked out, and now that I'm a fellow, I think I'll be able to offer more than I would have before," Lorenz says.

The opportunity arose as a part of the Ambassador Exchange Program, a pilot project funded by The Endocrine Society. A grant allows one endocrinologist and trainee from the U.S. to spend several weeks working at a hospital in a developing area, and later to host a foreign endocrinologist and trainee back at their home institution.

Foreign destinations were chosen based on the existence of an underserved population and an active coalition of local endocrinologists. Both teams attend clinics and hold lectures in their areas of expertise while abroad. The first-ever exchange occurred between the University of Michigan and the King Edward Memorial Hospital in Mumbai, India, earlier this year.

## Learning Opportunities

Mandel and Lorenz are heading to the Chris Hani Baragwanath Hospital situated in the Soweto area of Johannesburg, where their hosts, Dr. Roy Shires and trainee Dr. Kershlin Naidu, care for many of the endocrine patients in the region. The hospital is the largest in the

Southern Hemisphere, but faces many challenges unique to its location, history, and patients.

"Baragwanath caters to an enormous underprivileged population; we are not even sure what the population is. It's probably somewhere around 2.5 to 3 million people," says Shires.

At least 40 percent of the population of Johannesburg lives in Soweto—the abbreviated nomenclature for South Western Townships—where rampant poverty coincides with a high incidence rate of diabetes and other conditions.

"We tend to see diseases in quite an advanced stage," Shires explains.

The Chris Hani Baragwanath Hospital was originally founded as a military hospital during World War II at the request of the British government. After the war, it was decommissioned and converted by the Apartheid government into a hospital for the black population of Soweto. It has since grown from about an 800-bed hospital to about 3,200 beds.

Lorenz intends to learn the methods used at Baragwanath to overcome treatment barriers. "I'm hoping to gain experience of the way that diabetes is treated in South Africa, particularly what ethnic and cultural differences there are in management of diabetes." She has noticed among the diverse



Chris Hani Baragwanath Hospital in the Soweto area of Johannesburg is the largest in the Southern Hemisphere and caters to an enormous underprivileged population of approximately 2.5 to 3 million people.

patients she treats in Pennsylvania that each person manages the disease differently, and that the relationship with the provider greatly influences outcomes. "I think it will be extremely instructive to see different ways of practicing, especially among different patient populations, and additionally to see how a limited resources hospital addresses a growing a public health problem." She hopes to bring such knowledge back to the U.S. to share with her colleagues.

### Expertise Sharing

Conversely, Shires anticipates that Mandel and Lorcencz will bring much-needed expertise to South Africa. The two American doctors will attend the annual meeting for the Society for Endocrinology, Metabolism, and Diabetes of South Africa (SEMDSA), in addition to offering special workshops on topics such as thyroid ultrasounds and the Plan-Do-Study-Act (PDSA) method for detecting and resolving issues in hospital operations. On other days they will be introduced to some of the rare cases of endocrine disorders at Baragwanath.

In June, Shires will head stateside to complete the other half of the exchange program. He is excited to meet endocrinologists whose work he has followed over the years. He claims that many of "the names that I've always read about and the names that I often quote in my talks are at the University of Pennsylvania." He looks forward to discussions with specialists in topic areas ranging from hypogonadism to pediatric endocrinology.



At least 40 percent of the population of Johannesburg lives in Soweto—the abbreviated nomenclature for South Western Townships—where rampant poverty coincides with a high incidence rate of diabetes and other conditions.

Although still in the pilot phase, the Ambassador Exchange Program appears to be achieving its goals, which bodes well for the grant's future. The results of the South Africa and India exchanges may determine whether or not it becomes a permanent fixture. Plans for next year's program are underway. Those wishing to learn more may contact Elizabeth Kan at [ekan@endo-society.org](mailto:ekan@endo-society.org). **EN**

—Mapes is a freelance writer in Washington, D.C., and a regular contributor to *Endocrine News*.

## Just One Click

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Mortality and Other Important Diabetes-Related Outcomes With Insulin vs Other Antihyperglycemic Therapies in Type 2 Diabetes  
*JCEM* 2013;98:668-677; doi:10.1210/jc.2012-30

**EARLY RELEASE ARTICLES**  
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First Published on 01 Mar 2013

**APPROACH TO THE PATIENT**  
Approach to the Child with Prader-Willi Syndrome  
Jennifer L. Miller  
First Published on 05 Nov 2012  
  
Approach to the Patient with Postpartum Thyroiditis  
Alex Steagiero-Green  
First Published on 06 Feb 2012  
  
Approach to the Patient with Gestational Diabetes after Delivery  
Thomas A. Bushman and Kathleen A. Page  
First Published on 05 Dec 2011

**SPECIAL FEATURES**  
Full Penetrance of Morgan-White-Morel Syndrome in a Woman: Case Report and Review of the Literature  
Francesca Attanasio, Serena Granatiero, Valter Giantin, Enzo Guglielmi  
First Published on 06 Feb 2013  
  
Klinefelter Syndrome—A Clinical Update  
Kristian A. Groth, Anne Skakkebaek, Christian Hest, Claus Højberg Gravholt, Anders Bojesen  
First Published on 04 Jan 2013

## DIABETES MANAGEMENT: What You Need to Know...NOW

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# GOING MOBILE: Tracking Patient Data in Real Time

*Tech providers begin providing solutions for patient data capture and transmission, but will patients use the devices?*

By John Bohannon, PhD

**M**edicine requires intimate face-to-face interactions between doctors and patients, and it will probably never change. But doctors and patients also need data. However, getting the data out of all of the devices that gather health data can be a logistical nightmare.

First off, there are too many devices out there that measure everything from blood pressure and blood chemistry to brain wave patterns. Now fortunes are being made by getting all of these myriad devices to share their data efficiently and, ideally, wirelessly.



**LifeScan's Bluetooth Glucose Meter**

supposed to be around 100 mg/dL," he says. "But it's so sensitive to diet and exercise. If I have a big pasta dinner, it can be 160. If I have a light dinner the night before and go for a walk in the morning, it can come in under 60 and the thing goes beep! 'Go eat something, stupid!'"

My dad dutifully jots down all these numbers with a pencil in a paper logbook. He's supposed to look out for when his glucose starts hitting 200. Then it's time to re-adjust his medicine and, eventually, consider a new insulin delivery regimen. Finding trends in the data could be useful. It might give an early warning or reveal factors that tend to send his blood glucose out of whack. But to spot trends, someone would have to transcribe all the data into a computer and analyze it.

His blood glucose did eventually creep dangerously high. He visited his doctor after a year, bringing his logbook and glucose meter with him. My dad was in for a shock. "The doc plugged in the meter and downloaded every single reading it had ever taken. All the data was just sitting in there!"

## Emerging Solutions

The medical diagnostics industry is aware of this problem and is finally stepping up. One strategy is to use the high-power computers that so many people carry around in their pockets every day. An iPhone can not only analyze blood glucose data and give patients timely feedback and warnings, but it can share that data in real time with a doctor.

A company called Glooko is leading this charge. There are dozens of different glucose meters, each with slightly different outputs and data formats. Glooko solved the connection problem with a mini-stereo jack and a wireless infrared sensor—similar to a TV remote—that shuttles the data directly into an iPhone. These two methods cover almost every glucose meter currently in use. And it converts all those different data into a single format and stores it on their own servers.

Another strategy is to cut out the middleman by enabling devices to do the talking themselves. The FDA recently approved the first Bluetooth glucose meter by Life Scan. Bluetooth uses high-frequency radio waves to share data over short distances. The downside is that wireless meters are sure to be far more expensive than the old-fashioned ones for the foreseeable future, leaving companies like Glooko to bridge the gap.

The catchphrase for all this is mobile health, and diabetes isn't the end of it. One of the biggest drains on heart patients, both financial and psychological, is having to spend their days in hospitals. CardioDiagnostics has created a wearable heart meter that sends data wirelessly like a cell phone straight to the doctor. This will inevitably be expanded to other diagnostics, allowing all kinds of patients to carry on with their lives, visiting hospitals only when needed.

Ideally, whatever devices are collecting your health data should automatically send their data into the Cloud. Whenever possible, health problems should be predicted before they become a crisis. And patients should get real-time feedback to help them improve their lifestyles.

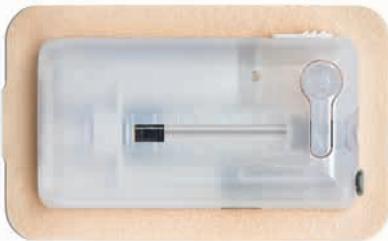
Of course, the patient still has to use the gadget. For his part, my dad says he won't be springing for a wireless glucose meter any time soon. "I just don't think it's worth it for me yet," he says. "I can see this being very useful later when my pancreas poops out. But not yet." **EN**

—Bohannon is a freelance writer in Boston, and a regular contributor to Endocrine News.

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\*If you follow the V-Go *Instructions for Patient Use*.

Reference: 1. Polonsky KS, et al. *N Engl J Med*. 1988;318:1231-1239.

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The following studies, among others, will be published in Endocrine Society journals. Before print, they are edited and posted online in each journal's Early Release section. You can access the journals at [www.endo-society.org](http://www.endo-society.org).



### Approach to the Patient With Oligozoospermia

Robert I. McLachlan

*The clinical approach to the oligozoospermic man involves understanding reproductive endocrinology, aspects of urology and clinical genetics, modern ART options, and the realistic discussion of their outcomes, alternatives such as adoption or donor gametes, and appreciation of the psychosocial concerns of the couple.*

### Outcome of Surgical Treatment of 200 Children With Cushing's Disease

Russell R. Lonser, Joshua J. Wind, Lynnette K. Nieman, Robert J. Weil, Hetty L. DeVroom, and Edward H. Oldfield *Early postoperative endocrine testing predicts lasting Cushing's disease remission. Because lasting remission is associated with younger age at surgery, smaller adenomas, and lack of dural invasion, early diagnosis should improve surgical outcome.*

### Clinical Review: Parathyroid Localization and Implications for Clinical Management

John W. Kunstman, Jonathan D. Kirsch, Amit Mahajan, and Robert Udelsman *Parathyroid localization is indicated in surgical candidates. Crucial considerations when selecting an imaging study include availability, cost, radiation exposure, local expertise, and accuracy.*

### Active Vitamin D (1,25-Dihydroxyvitamin D) and Bone Health in Middle-Aged and Elderly Men: The European Male Aging Study

Dirk Vanderschueren, Stephen R. Pye, Terence W. O'Neill, David M. Lee, Ivo Jans, Jaak Billen, Evelien Gielen, Michaël Laurent, Frank Claessens, Judith E. Adams, Kate A. Ward, Gyorgy Bartfai, Felipe F. Casanueva, Joseph D. Finn, Gianni Forti, Aleksander Giwercman, Thang S. Han, Ilpo T. Huhtaniemi, Krzysztof

Kula, Michael E. J. Lean, Neil Pendleton, Margus Punab, Frederick C. W. Wu, Steven Boonen, and the EMAS Study Group *Serum 1,25(OH)2D is associated with higher bone turnover and poorer bone health despite being positively related to 25(OH)D. A combination of high 1,25(OH)2D and low 25(OH)D is associated with the poorest bone health.*

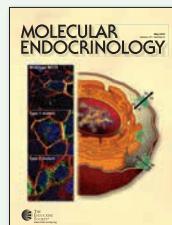


### Obesity: A Somatotrope Perspective

Buffy S. Ellsworth *Leptin acts as an indicator of energy stores and regulates appetite through regulation of orexigenic and anorexigenic signals in the hypothalamus.*

**Organizational Effects of Perinatal Exposure to Bisphenol-A and Diethylstilbestrol on Arcuate Nucleus Circuitry Controlling Food Intake and Energy Expenditure in Male and Female CD-1 Mice** Harry MacKay, Zachary R. Patterson, Rim Khazall, Shoyeb Patel, Dina Tsirlin, and Alfonso Abizaid *Early-life exposure to the obesogen BPA leads to sexually dimorphic alterations in the structure of hypothalamic energy balance circuitry, leading to increased vulnerability for developing diet-induced obesity and metabolic impairments, such as glucose intolerance.*

**Posttranslational Processing of Human and Mouse Urocortin 2: Characterization and Bioactivity of Gene Products** Joan M. Vaughan, Cynthia J. Donaldson, Wolfgang H. Fischer, Marilyn H. Perrin, Jean E. Rivier, Paul E. Sawchenko, and Wylie W. Vale *Probable urocortin 2 processing products were identified and should expedite the characterization of these proteins in mammalian tissues.*



### Androgens Promote Prostate Cancer Cell Growth Through Induction of Autophagy

Yan Shi, Jenny J. Han, Jayantha B. Tennakoon, Fabiola F. Mehta,

Fatima A. Merchant, Alan R. Burns, Matthew K. Howe, Donald P. McDonnell, and Daniel E. Frigo *There is a role for increased fat metabolism and autophagy in prostatic neoplasias.*

**FOXO1/3 Depletion in Granulosa Cells Alters Follicle Growth, Death, and Regulation of Pituitary FSH** Zhilin Liu, Diego H. Castrillon, Wei Zhou, and JoAnne S. Richards *FOXO1/3 divergently regulates follicle growth or death by interacting with the activin or BMP pathways in granulosa cells and by modulating pituitary FSH production.*

**HDAC7 Inhibits Osteoclastogenesis by Reversing RANKL-Triggered  $\beta$ -Catenin Switch** Zixue Jin, Wei Wei, Paul C. Dechow, and Yihong Wan *HDAC7 deletion in the osteoclast lineage results in a 26% reduction in bone mass owing to a 102% elevated bone resorption.*



### The Roles of Vitamin D in Skeletal Muscle: Form, Function, and Metabolism

Christian M. Grgis, Roderick J. Clifton-Bligh, Mark W. Hamrick, Michael

*Holick, and Jenny E. Gunton*  
**Insulin Resistance and the Polycystic Ovary Syndrome Revisited: An Update on Mechanisms and Implications** Evangelia Diamanti-Kandarakis and Andrea Dunaif  
**Sclerostin and Dickkopf-1 as Therapeutic Targets in Bone Diseases** Hua Zhu Ke, William G. Richards, Xiaodong Li, and Michael S. Ominsky



## THE SOCIETY RALLIES FOR MEDICAL RESEARCH

Dozens of Endocrine Society staffers joined thousands of others in attendance at the Rally for Medical Research on the steps of the Carnegie Library in Washington, D.C., on April 8 to protest proposed cuts to the NIH budget. Pictured with the Society's Director of Government Affairs, Stephanie Kutler (L) are Kerry Burnstein, PhD, University of Miami, Miller School of Medicine, and Alan Schneyer, PhD, University of Massachusetts—Amherst.



The Endocrine Society brings top-quality clinical updates to your area with Endocrine Essentials Live. The second year of this regional series features two programs designed for both professional endocrinologists and for primary care physicians treating endocrine-related diseases:

- ***Endocrine Essentials Pro***, chaired by Stephanie Lee, MD, PhD, and Mark Molitch, MD,

## ENDOCRINE EDUCATION IN YOUR BACKYARD

focuses on pituitary and thyroid disorders.

- ***Endocrine Essentials for Primary Care***, chaired by Lisa Fish, MD, and Carol Wysham, MD, is a diabetes, osteoporosis, and thyroid disorder program for internists, general practitioners, diabetes educators, and other primary care providers.

Session dates:  
**October 12:**  
Atlanta, GA, and

Minneapolis, MN

- October 19:**  
Seattle, WA
- October 26:**  
Tampa, FL, and New York, NY\*
- November 2:**  
Denver, Colorado\*

These concurrent half-day programs provide state-of-the-art updates on current practice challenges from expert faculty. Visit [www.endo-society.org/eelive](http://www.endo-society.org/eelive) for more details.

\* Dates subject to change.

## Society Releases 2013 CLINICAL PRACTICE SURVEY

In order to guide its efforts on behalf of members, The Society has issued an invitation to its members to participate in a Clinical Practice Survey this spring. This anonymous survey is designed to elicit members' treatment patterns for specific endocrine disorders and issues. Results from this survey will allow The Endocrine Society to use practice-level data to inform education program planning and other Society initiatives.

Invitations and reminders to participate have been

released to members via email. Responses submitted by the survey deadline, June 15, 2013, will be entered into a drawing for a chance to win a complimentary edition of ESAP 2013 or Pediatric ESAP 2013–2014.

If you have not completed the survey, please respond to your original email as soon as possible.

## Board Reviews CALENDAR

**SEPTEMBER 24–28, 2013**  
**CLINICAL UPDATE AND ENDOCRINE BOARD REVIEWS**  
Hyatt Regency New Orleans  
New Orleans, LA

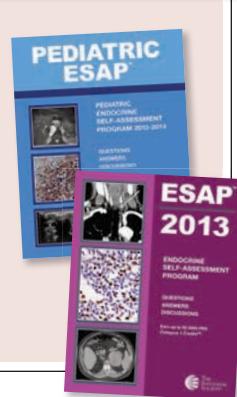
**SEPTEMBER 24–25, 2013**  
**ENDOCRINE BOARD REVIEW AND PEDIATRIC BOARD REVIEW**

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**SEPTEMBER 26–28, 2013**  
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Register and download the advance program at [www.endo-society.org/NOLA](http://www.endo-society.org/NOLA).





## ENDO 2013 Pre-conference, Conference, and Satellite Events

- **Vitamin D Workshop:**  
- Tuesday, June 11, to Friday, June 14
  - **Diabetes Diagnosis & Management:**  
- Friday, June 14, 9am-5:30pm
  - **Hands-on Thyroid Ultrasound Workshops**
    - Advanced:  
Friday, June 14, 8am-1:30pm
    - Introductory:  
Friday, June 14, 1:30-6:30pm
  - **G Protein-Coupled Receptors in the Pathophysiology of Diabetes and Metabolic Disorders:**  
- Tuesday, June 18, 1:30-7:30pm
- Seating is limited and certain events require separate registration. Learn more at [www.endo-society.org/endo2013](http://www.endo-society.org/endo2013) in the Programs and Events section.

## Event CALENDAR

**MAY 15-19: ANTALYA, TURKEY**  
Turkish Endocrine Society  
[www.temhk2013.org/](http://www.temhk2013.org/)

**MAY 19-22: MOSCOW, RUSSIA**  
Diabetology Congress featuring  
Highlights of ENDO

**MAY 25-20: WASHINGTON, DC**  
American Academy of Physicians  
Assistants (AAPA)  
[www.aapa.org](http://www.aapa.org)

**JUNE 15-18: SAN FRANCISCO, CA**  
ENDO 2013:  
The 95th Annual Meeting & Expo  
[www.endo-society.org/endo2013](http://www.endo-society.org/endo2013)

**JUNE 21-25: CHICAGO, IL**  
American Diabetes Association (ADA)  
[www.diabetes.org/](http://www.diabetes.org/)

## New Global Initiative: HIGHLIGHTS OF ENDO

The Endocrine Society will hold its first program in the new Highlights of ENDO series in Moscow, Russia, on May 19. Led by President William F. Young Jr., MD, MSc, the half-day program will be held in conjunction with the Russian Institute of Endocrinology's Diabetology Congress. The program will feature an adrenal disorders symposium, review of the Society's pituitary incidentalomas clinical practice guidelines, and updates in diabetes and bone. Joining Dr. Young on the slate of speakers will be Felix Beuschlein, MD, Ian Blumer, MD, Dolores Shoback, MD, and Carol Wysham, MD. Other Highlights of ENDO programs are being scheduled for China, Mexico, Brazil, and Japan. Additional information can be found at [www.endo-society.org/highlights](http://www.endo-society.org/highlights).

## What You Need to Know About ABIM MOC CHANGES

The American Board of Medical Specialties (ABMS) MOC program, which is being implemented by the 24 specialty member boards, is undergoing some big changes. ABMS has announced revised requirements that impact how diplomates engage with MOC and at what frequency. Certification in Endocrinology, Diabetes, & Metabolism is administered through the American Board of Internal Medicine (ABIM); the American Board of Pediatrics (ABP) administers certification for Pediatric Endocrinology.

In early April, ABIM released information on its revised requirements, which will be implemented in early 2014. (The ABP began transitioning towards the new model for MOC in 2010.) Changes are outlined at [www.moc2014.abim.org](http://www.moc2014.abim.org). The impact of these changes on endocrinologists has been outlined by Endocrine Society member Graham McMahon, MD, in his November 2012 *JCEM* commentary, "Implications of the Changes in Maintenance of Certification for Endocrinologists." Read it here: <http://jcem.endojournals.org/content/97/11/3897.full>.

[pdf.html?sid=dbce308f-e935-4a42-82ef-664a9d2510bd](http://pdf.html?sid=dbce308f-e935-4a42-82ef-664a9d2510bd).

Here are some answers to your questions about the MOC changes:

### What has changed for ABIM certificate holders who were initially certified after 1990?

To maintain certification, endocrinologists certified through ABIM will need to complete MOC Part 2 and Part 4 on a five-year cycle instead of the previous 10-year MOC cycle. Though the examination frequency is retained at once every 10 years, completion of a Part 2 or Part 4 activity is required every two years (new), and 100 points of activity must be completed every five years in order to be reported on ABIM's website as "Meeting MOC Requirements." Physicians will also have to complete a patient survey and a patient safety module by Dec. 31, 2018, and every five years thereafter. Starting in 2014, physicians will earn 20 MOC points for their first MOC exam attempt and physicians in fellowship training will earn 20 MOC points for each year of training they successfully complete.

### What has changed for those who were ABIM certified before 1990?

Certificates issued in or previous to 1989 (those who have been “grandfathered/grandmothered” into lifetime certification) have the option to engage in MOC, but engagement in MOC is not required to maintain certification. However, under the new MOC requirements, the ABIM and ABP will now be publically reporting whether a diplomate is “Meeting MOC Requirements,” regardless of his or her initial certification date.

Beginning with ABIM certificates issued in January 2014, in order to “Meet MOC requirements,” ABIM diplomates will be required to:

	ABP certificates expiring 2013 - 2016	Permanent ABP certificates Entering MOC in 2013
Enroll in MOC	At time of certification	By December 2013
Maintain unrestricted license (Part 1)	Ongoing	Ongoing
Knowledge Self-Assessment (Part 2)	At least one (1) by certificate expiration	2013 – December 2018: Earn 100 MOC points (40 in Part 2, 40 in Part 4, 20 in either Part 2 or Part 4)
Performance in Practice Activity (Part 4)	At least one (1) by certificate expiration	
Pass secure exam (Part 3)	Within past 10 years	By December 2018
Re-enroll in MOC	After completing Part 2 and Part 4 activities	By December 2018

	Initially ABIM certified in or after 1990:		Initially ABIM certified in or before 1989:	
	Current	After January 2014	Current	After January 2014
Maintain unrestricted license (Part 1)	Ongoing	Ongoing	Ongoing	Ongoing
Engage in some MOC activity (either Part 2 or Part 4 or both)	N/A	Every two (2) years	N/A	Every two (2) years
Earn 100 MOC points (20 in Part 2, 20 in Part 4, remaining 60 can be either Part 2 or Part 4. * Can earn 20 points for taking initial MOC exam.*)	Every ten (10) years	Every five (5) years	N/A	Every five (5) years
Take certifying exam (Part 3)	Every ten (10) years	Every ten (10) years	N/A	By December 31, 2023
Participate in patient survey and a patient safety module	N/A	By December 31, 2018 and every five (5) years thereafter	N/A	By December 31, 2018 and every five (5) years thereafter

### Do ABP requirements differ from ABIM requirements?

No, the changes to the ABIM’s MOC requirements are consistent among the boards; however, the boards have some autonomy on how they accomplish the roll-out of the changes. ABP began transitioning to a continuous model of certification in 2010. During this transition, ABP MOC requirements vary depending on expiration date of certificates. Diplomates holding certificates containing an end date of 2013-2016 are required to complete Part 2 and Part 4 activities regardless of the activity point value.

### “MOC Made Easy” Session at ENDO 2013

The Endocrine Society will host a “MOC Made Easy” session at ENDO 2013 (Monday, June 17, 2 pm). Discuss the new requirements and strategies for MOC success with your colleagues. The Society also offers a variety of self-assessment products to help you meet both MOC Part 2 and Part 4 requirements. Visit [endoselfassessment.org](http://endoselfassessment.org) to view the complete portfolio of self-assessment products produced by The Endocrine Society and its expert endocrine faculty.

### Requirements for ABIM or ABP Certification

The MOC program requires completion of four components to retain and renew certification with the ABIM or ABP:

#### Part 1: Licensure and Professional Standing

Physicians must have a valid, unrestricted license to practice medicine and confirmation of good standing in their local practice community.

#### Part 2: Lifelong Learning and Self-Assessment

Through open-book examinations developed by member boards, medical societies, and others, physicians self-assess their clinical and practical knowledge.

#### Part 3: Cognitive Expertise

Physicians are required to pass a closed-book, proctored examination in their specialty area.

#### Part 4: Practice Performance Assessment

Physicians use tools to self-assess their performance in medical practice, such as Practice Improvement Modules (PIMs).

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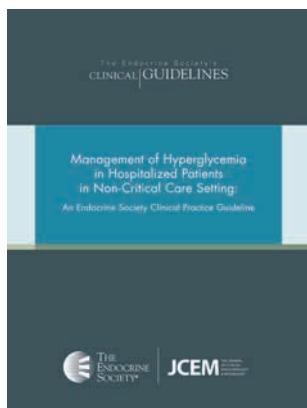
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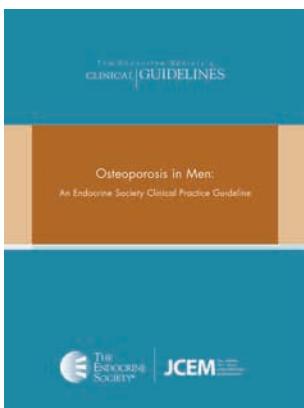
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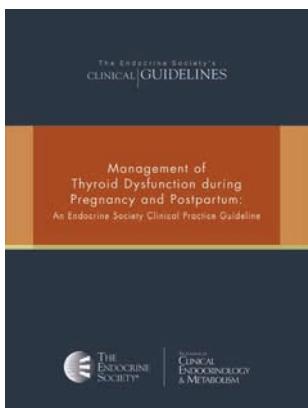
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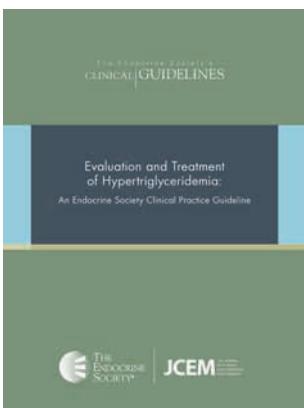
Management of  
Hyperglycemia in  
Hospitalized Patients in  
Non-Critical Care Setting  
(January 2012)



Osteoporosis in Men  
(June 2012)



Management of  
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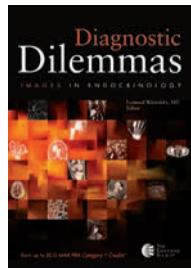
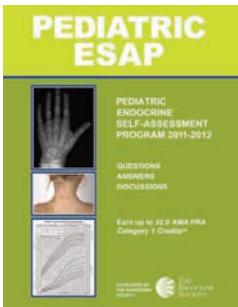
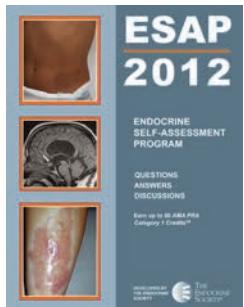
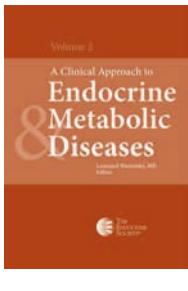
For more information or to view all *Clinical Practice Guidelines*, visit [store.endo-society.org](http://store.endo-society.org)





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## PUBLICATIONS & RESOURCES



Visit the Endocrine Society's online store and you'll notice something different. It's now easier to find and purchase the valuable self-assessment products, reference materials, and study guides you need in your work or practice. You'll also find some fun gifts and Society logo merchandise there.



VISIT [WWW.ENDO-SOCIETY.ORG/STORE](http://WWW.ENDO-SOCIETY.ORG/STORE)  
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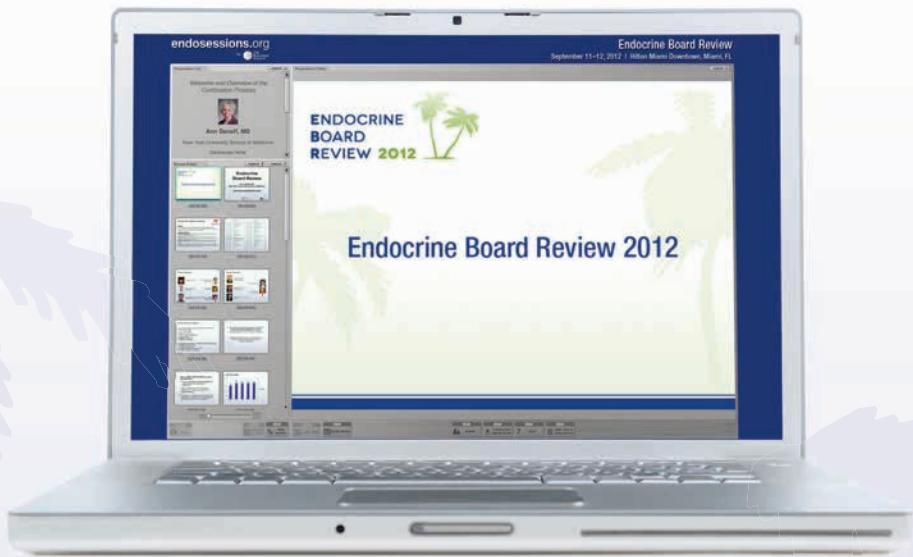
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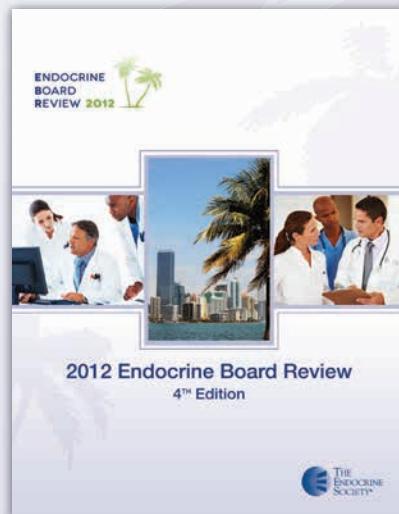
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Leonard Wartofsky, MD  
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Improve your diagnostic skills as you unravel puzzling images and cases previously published in the *Journal of Clinical Endocrinology & Metabolism* (*JCEM*) of rare disorders, unusual presentations of common disorders, and fascinating images of endocrine disorders.

*Diagnostic Dilemmas* provides an entertaining way to earn up to 20.0 AMA PRA Category 1 Credits™.

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—Lewis Braverman, MD,  
Professor of Medicine  
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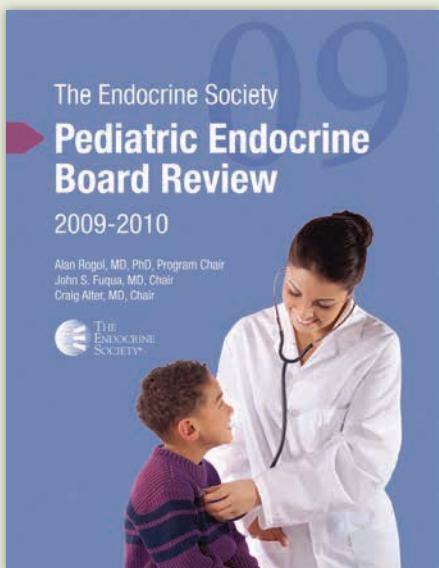
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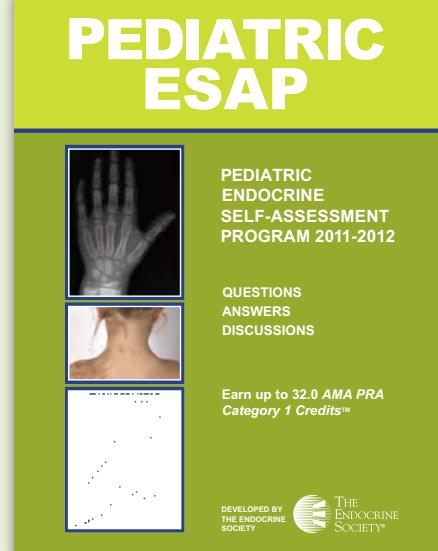
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*Evaluation of Thyroid Nodules PIM Task Force*

Erik Alexander, MD | Carol Greenlee, MD, FACP, FACE | Susan Mandel, MD, MPH

For more information, visit [endoselfassessment.org](http://endoselfassessment.org).



The Hormone Health Network offers a series of bilingual fact sheets covering various endocrine topics. Each sheet includes a title, a photo of a patient, key facts, and a 'Did You Know?' section.

- Low Testosterone Men's Health:** Discusses low testosterone levels in men, causes like obesity and diabetes, and treatment options.
- Hipotiroidismo:** Explains hypothyroidism, symptoms like fatigue and weight gain, and treatment with thyroid hormone.
- Osteoporosis Women's Health:** Details what osteoporosis is, risk factors like age and family history, and ways to prevent it through diet and exercise.
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The Hormone Health Network joins Society members, health care professionals, patients, and the public in meaningful, informed discussions about hormones and health. Available in both English and Spanish, the Network's bilingual fact sheet series provides patients with accurate, expert-reviewed information on more than 80 endocrine-related topics in an easy-to-understand format.

Visit [www.hormone.org](http://www.hormone.org) and sign up for Hormone Hotline, our monthly e-update, to get the latest news on Hormone Health Network publications and events.

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# When MOC is calling... endoselfassessment.org is there.

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- Details on the MOC requirements and available MOC-approved activities
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Know the Requirements.  
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Make sure you know the requirements for maintaining certification:

### Part 1: Licensure and Professional Standing

Physicians must have a valid, unrestricted license to practice medicine, and confirmation of good standing in their local practice community.

### Part 2: Lifelong Learning and Self-Assessment

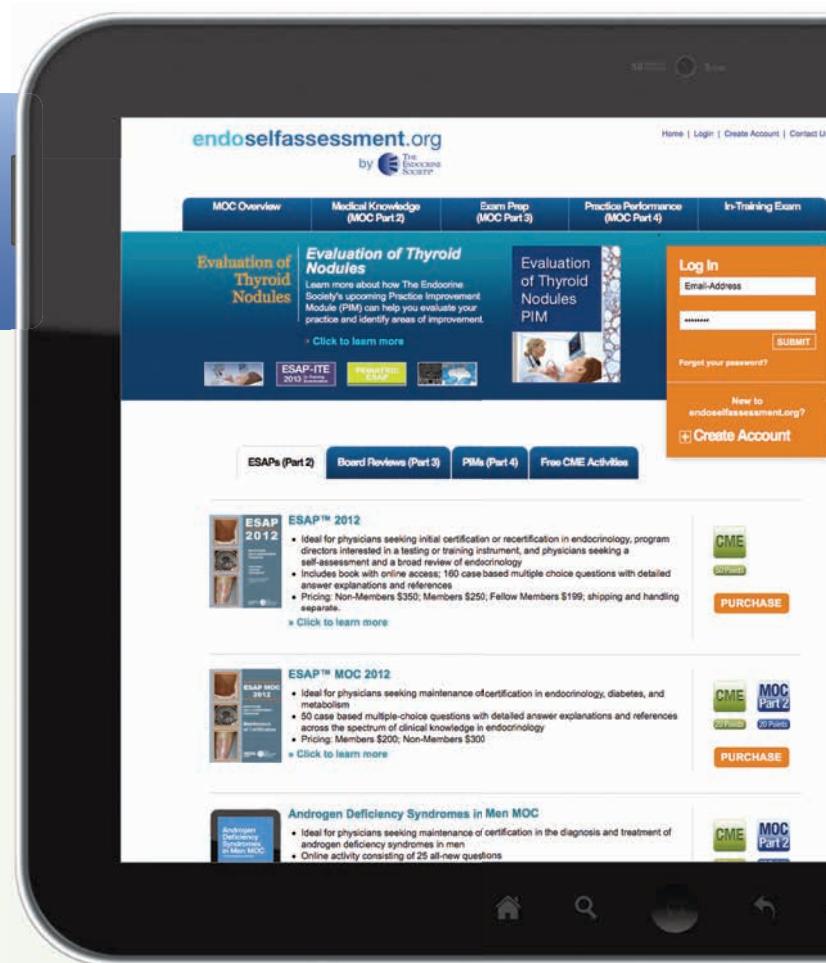
Through open-book examinations, physicians assess their clinical and practical knowledge.

### Part 3: Cognitive Expertise

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Physicians use tools to self-assess their performance in medical practice and develop plans to improve their professional practice.



Next, learn more how The Endocrine Society's self-assessment tools can help you by visiting [endoselfassessment.org](http://endoselfassessment.org).



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The Cleveland Clinic seeks highly qualified board certified/board eligible endocrinologists to supplement our endocrine services. The duties of these predominantly clinical posts will be divided between our main campus in Cleveland and our regional facilities. A clinical research interest will be welcomed, and the successful applicants will be expected to

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## ENDOCRINOLOGIST



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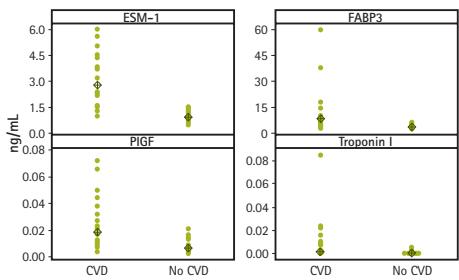
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