

FEBRUARY 2014

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

ENDOCRINE news™

UPHILL CLIMB

New research shows that **obesity** and **dementia** may be more closely linked than previously thought

Cash for Kidneys:
ARE INCENTIVES THE ANSWER?

Gluten Free:
TREATING DIABETES & CELIAC DISEASE

ENDOCRINE
SOCIETY 

Announcing Endocrine Press!

In keeping with the mission to advance excellence in endocrinology, the Endocrine Society is pleased to announce the launch of Endocrine Press. This newly revamped publishing program will offer a wide scope of content, from peer-reviewed journals to scholarly books and other material, in both print and digital formats.

Do You Have an Idea for a Book?

A great idea is only useful if you share it. By publishing with Endocrine Press, your knowledge can reach a broad audience of endocrinology professionals and beyond. We're currently seeking editors, authors, and manuscript ideas.

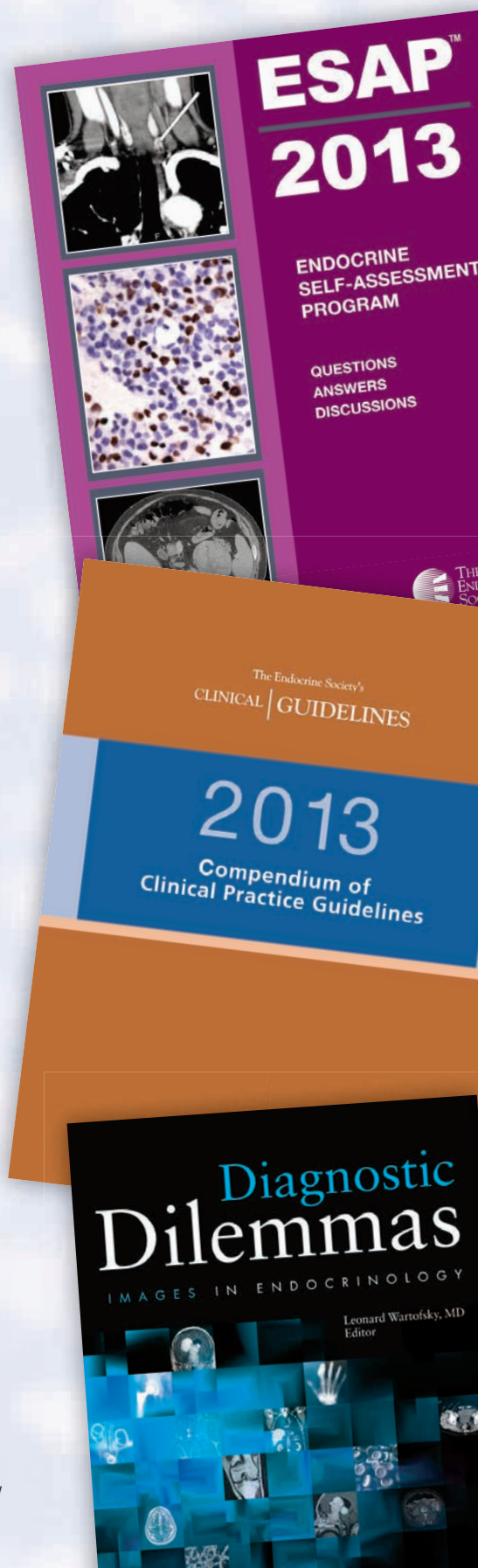
If you are interested in getting published we can help you get started. Visit www.endocrinepress.org to complete a book proposal form or learn more about the submission process.

Be sure to include the following information in your proposal submission:

- A brief description of the proposed book
- Target audience
- A list of other published works on the same topic and a description of what makes your book unique or different
- Anticipated completion date of the manuscript
- Curriculum vitae or resume and contact information

For additional information, please contact:
Maxine Aldred, maldred@endocrine.org

Learn more at
www.endocrinepress.org





THE ENDOCRINE SOCIETY'S 96th ANNUAL MEETING & EXPO

JOIN THE SOCIETY AND
SAVE UP TO \$740
OFF THE NONMEMBER REGISTRATION
FOR ICE/ENDO 2014.

WWW.ENDOCRINE.ORG/SAVE740



© 2014 Endocrine Society

FLARE

FUTURE LEADERS ADVANCING RESEARCH IN ENDOCRINOLOGY

Promoting the Advancement of Early Career Investigators

FLARE offers senior graduate students, post-doctoral fellows and clinical fellows a multi-faceted training program:

- The FLARE Workshop — professional development and leadership training
- The FLARE Mentoring Network — online and in-person mentoring
- The FLARE Internship Program — provides exposure to the Society's governance and leadership activities

www.endocrine.org/FLARE

Supported by the National Institute of Diabetes and Digestive and Kidney Diseases.

© 2014 Endocrine Society



INTERESTED IN INVESTIGATOR-SPONSORED RESEARCH

TO BE A LEADER in worldwide operations and scientific excellence, the Collaborative Science Center of Excellence of Bristol-Myers Squibb (BMS) continuously looks for new and innovative approaches to facilitate the ongoing development of research with the objective of helping to address the unmet needs of patients with serious diseases.

Bristol-Myers Squibb has updated its process for receiving Web applications for Investigator-Sponsored Research (ISR) to expedite the review process and to provide increased transparency in specific areas of ongoing research interest to BMS. Specific time periods for submissions are now offered. Bristol-Myers Squibb will have two open cycles—the first commencing in April and the second commencing in October. Each cycle will be open for approximately 12 weeks. BMS anticipates receiving and reviewing the majority of ISR applications during these two cycles.

The submissions for non-interventional research, non-clinical research, and from cooperative groups and networks are received and reviewed on an ongoing basis. Submissions for the fellows research program will have one open cycle, commencing in December.

BMS evaluates all requests received and gives priority to proposals that support its mission related to research in the following therapeutic areas: cardiovascular, metabolics, neuroscience, oncology, immunology, and virology.



For more information, please visit www.bms.com/israpplications.



FELLOWS RESEARCH PROGRAM



NON-CLINICAL RESEARCH



NON-INTERVENTIONAL RESEARCH



CLINICAL RESEARCH

COOPERATIVE GROUPS AND NETWORKS





17



20



24

17 COVER Story Heavy Mettle

By Melissa Mapes

New research shows that obesity plays a larger role in the onset of dementia than previously thought. What does the future hold for younger, obese generations?

20 The Market for Kidneys

By Aalok Mehta

The demand for kidneys far outstrips the supply. Could offering financial incentives help bridge the gap and save lives?

24 Double Whammy

By Terri D'Arrigo

Managing diabetes is a challenge, but when you add celiac disease on top of that, many patients feel overwhelmed.

28 Office Space

By Derek Bagley

With brand-new headquarters in the middle of Washington, D.C., the Endocrine Society is poised to take its place alongside other prestigious medical societies in the nation's capital.

DEPARTMENTS

6 President's Viewpoint

Society connects with the media

7 Editor's Page

New CEO shares her thoughts

8 Letters to the Editor

Clarifying "The Name Game"

9 Trends & Insights

News from the latest research

23 Research Roundup

Studies in the Society journals

30 Practice Resources

Can a dietician help your practice?

32 Laboratory Notes

Keeping tabs on lab chemicals

34 Advocacy

NIH's LGBTI research

35 Classifieds

Job opportunities

36 InTouch

ICE/ENDO 2014 gears up

39 Hormone Health Network

Fact Sheet: Diabetes Insipidus



Scan this QR code
with your smartphone
or mobile device for
Endocrine News Online.

ENDOCRINE
SOCIETY

Hormone Science to Health

OUR SCIENCE WRITERS CONFERENCE Informs the Media about Endocrine Issues

Whether it's diabetes, obesity, performance-enhancing drugs, or a number of other oft-covered endocrine issues, hormones are in the news every day. Unfortunately, some well-intentioned articles are inaccurate or lacking key information. If these writers had the opportunity to connect with the Society's expert members, their readers would be better informed. That's why every two years the Society hosts a Hormones and Health Science Writers Conference, exclusively for reporters.



Teresa K. Woodruff, PhD

I had the opportunity to speak with members of the media at the latest Science Writers Conference, held on Dec. 13th in New York City. There was a fantastic turnout, and our presenters did an exemplary job of clearing up misconceptions about hormones and the endocrine

system, while educating attendees on the fundamentals of endocrinology.

It was encouraging to see reporters interviewing our experts during the breaks and after the event. They know how important it is to have credible and authoritative sources when crafting their stories, and it's events like this that show reporters that the Endocrine Society is the go-to source for hormone-related issues.

Building Relationships

Twenty reporters came out to the event, representing outlets such as *The New York Times*, *Shape Magazine*, *Everyday Health*, *Medscape*, and *MedPage Today*. The question and answer periods were full of insightful questions, and the way journalists furiously scribbled notes reminded me of my school days.

Our previous Science Writers Conferences have shown that the connections made with reporters can be long-lasting. As past attendees develop stories about endocrine-related topics, they often remember these presentations and contact the Society to arrange an interview.

Hot Topics

The greatest challenge in organizing this event is creating an agenda of presentations that encourages reporters to make time in their very busy schedules to spend a half-day listening to a series of presentations. The topics must be compelling.

Past conferences featured presentations on whether or not male menopause is a real condition, the benefits and risks of menopausal hormone therapy, and the

potential impact of endocrine-disrupting chemicals on public health.

This year's event included five presentations on topics currently gathering a significant amount of media coverage:

- **Dr. Daniel Bessesen** of the University of Colorado, Denver, gave a presentation highlighting the importance of diet and exercise and expanding into when medication and weight loss surgery may be helpful treatment options.
- **Dr. Robert Lash** of the University of Michigan Health System talked to reporters about emerging advances in diabetes care including new medications and devices as well as an update on the development of the artificial pancreas.
- **Dr. Stephanie Lee** of the Boston University School of Medicine spoke to reporters about the potential health risks of taking thyroid supplements to address symptoms such as fatigue or weight gain in patients with no diagnosis of hypothyroidism.
- **Dr. Shalender Bhasin** of the Boston University School of Medicine gave attending reporters an exclusive sneak peek at the Endocrine Society's new Scientific Statement on the adverse health effects of performance-enhancing drugs. He told reporters that elite athletes are a very small percentage of the population using PEDs, and that PED use is as prevalent in the U.S. as HIV infection or type 1 diabetes.
- **Dr. Eve Van Cauter** of the University of Chicago educated reporters on how losing sleep can wreak havoc on metabolism and provided data showing a link between sleep disturbances and increased risk of obesity and diabetes.

If you'd like to see these presentations, please visit: <http://www.endocrine.org/news-room/science-writers-conference>. Events like this are important, and it's my hope that as we educate reporters, their readers will better understand how important hormones are to overall health. **EN**

Teresa K. Woodruff, PhD
President,
Endocrine Society

FEBRUARY 2014

ENDOCRINE NEWS

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

Endocrine News is a registered trademark owned by the *Endocrine Society*

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.

President: **Teresa K. Woodruff, PhD**
tkw@northwestern.edu

President-Elect: **Richard J. Santen, MD**
rjs5y@virginia.edu

Past President: **William F. Young Jr., MD**
young.william@mayo.edu

Secretary-Treasurer: **Kenneth H. Hupart, MD**
hupart@numc.edu

Executive Director & CEO: **Barabara Byrd Keenan**
bbkeenan@endocrine.org

Director of Publications: **Douglas Byrnes**
dbyrnes@endocrine.org

Managing Editor: **Mark A. Newman**
mnewman@endocrine.org

Production Manager/Art Director: **Cynthia Richardson**
crichardson@endocrine.org

Associate Editor: **Derek Bagley**
dbagley@endocrine.org

Prepress & Printing: **Genveo Publishing Services**
www.cadmus.com

Endocrine News is published 12 times a year by the Endocrine Society, 8401 Connecticut Ave., Suite 900, Chevy Chase, MD 20815
Phone 301-941-0200 • Fax 301-941-0259
www.endocrine.org.

Print ISSN 2157-2089 Online ISSN 2157-2097
Copyright © 2014 by the Endocrine Society.
All rights reserved.

• For reprints, please contact
permissions@endocrine.org.

• Please send letters to the editor, comments, and suggestions for *Endocrine News* to
endocrinenews@endocrine.org.

• Product print and product online display advertising, by Pharmaceutical Media, Inc., contact Joe Schuldner, jschuldner@pminy.com, or Joann Mitchell, jmitchell@pminy.com.

• For classified advertising, print and online, contact Christine Whorton at
endocareers@endocrine.org or 800-361-3906.

The statements and opinions expressed in *Endocrine News* are those of individual authors and do not necessarily reflect the views of the Endocrine Society.

Advertising appearing in this publication does not constitute endorsement of its content by *Endocrine News* or the Endocrine Society.

This month *Endocrine News* is tackling a topic that's been in the news a lot lately — obesity — albeit with a different twist. Our cover story by Melissa Mapes discusses the added hazard that being overweight causes in patients with dementia (“Heavy Mettle,” p. 17). Each is problematic, but treating these two conditions concurrently can be a challenge for the physician, patient, and the patient's family and other caregivers.

Speaking of a double dose of maladies, in “Double Whammy” on p. 24, Terri D'Arrigo spells out the issues that face patients who are diagnosed with both diabetes and celiac disease, and the steps physicians should take in order to treat both conditions as effectively as possible. Managing these dual disorders takes a fair amount of skill as well as a healthy dose of patience.

Aalok Mehta looks at the feasibility of paying donors for their kidneys in order to combat the donation shortage that has wreaked havoc on the healthcare system for the last several decades (p. 20). Since almost 100,000 patients are waiting for a compatible transplant — and thousands die while waiting — putting healthy kidneys on the market could be a real win/win situation for donor, recipient, and the healthcare industry as a whole.

As I mentioned last month, I wanted to ask the new Society CEO Barbara Byrd Keenan her thoughts as she takes on her new role leading the organization. “The thing I'm most excited about is the leadership position that endocrinology can take in a holistic approach to advancing human health,” she says. “As I have learned more about the interests of our members, I've gotten very excited about the model that is typically framed in translational research, which I think is also the model of endocrinology. Endocrinology truly is at the nexus of research, treatment, and prevention of the major diseases of the 21st century.”

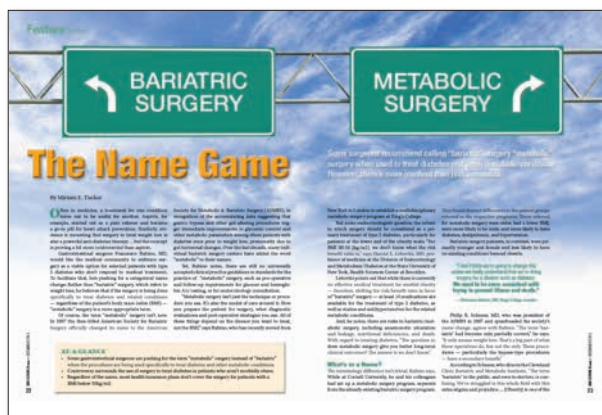
Keenan says the continuum of expertise from basic research to clinical practice through translational science is a strength of the Society and its members. “We talk about bench to bedside, but I believe there is a third pillar: bench to bedside to well-being,” she explains. “And that really encompasses the scope and positive impact that endocrinology can have on everyone who touches it along that continuum. What better place to be than at the forefront of research into a systemic approach to human health?”

Before coming to the Society, Keenan was content as CEO of the Institute of Food Technologists, her third role as an association CEO. In fact, she had planned to finish out her association career at IFT. “I saw the holistic approach of food, pharma, and endocrinology as the delta of positive change,” she says, explaining how the Endocrine Society position piqued her interest. “And from that moment I was seriously intrigued. The way the search committee



Mark A. Newman

continued on page 8



Dear Mr. Newman:

I received a copy of the December 2013 issue of *Endocrine News* and read with interest the article titled: “The Name Game” by Miriam E. Tucker. I write this commentary since some semantic explanations are necessary and should be made available to your readers.

The earliest surgery was incisional, followed by extirpative and reconstructive. With the advent of gastrectomy for duodenal peptic ulcer disease, a new era of surgery came into focus — namely, metabolic. In 1978, my late partner, Dr. Richard L. Varco, and I probably provided the first clear definition of metabolic surgery, in a textbook by that name, “The operative manipulation of a normal organ or organ system to achieve a biological result for a potential health gain.” Gastrectomy for duodenal ulcer is, therefore, metabolic surgery since the operated organ is normal but its resection cures a diseased organ never touched by the operation.

Metabolic surgery encompasses many sub-disciplines: bariatric surgery for obesity, diabetes surgery for type 2 diabetes, partial ileal bypass surgery for hyperlipidemia, cervical vagotomy surgery for depression,

and so on. Dr. [Francesco] Rubino and I totally agree on this perspective. Having the same operation performed for two different purposes may be confusing, but does not negate this concept. Again, using gastrectomy as an example, a sleeve gastrectomy for obesity is bariatric surgery; whereas, a sleeve gastrectomy for type 2 diabetes in a patient with a BMI <35 kg/m² is metabolic surgery. Neither should desirable secondary outcomes be difficult to accept, e.g., bariatric surgery in obese individuals resolving type 2 diabetes.

The primary issue is not a “name game” but a definition of purpose and, most importantly, not letting name games interfere with facts, even if some practitioners find these facts difficult to accept. Two facts, undeniable by over 50 years of accumulated evidence, are:

1. Bariatric surgery provides successful weight loss in the majority of morbidly obese individuals; no current medical therapy comes close in effectiveness.
2. Metabolic surgery, using procedures proven to be relatively safe in bariatric surgery, resolves type 2 diabetes; current medical therapy is palliative only.

Surgeons and endocrinologists should agree that to study the human neurohormonal response to the standard and experimental metabolic/bariatric surgery procedures can lead us to an understanding of the mechanisms of surgical therapy, and, possibly, give us clues as to the etiology of obesity and type 2 diabetes. In turn, with this knowledge it may be possible to halt the current obesity and type 2 diabetes epidemics without resorting to surgery at all. Let surgery show the way, and great benefits may follow. **EN**

Henry Buchwald, MD, PhD
 Professor of Surgery and Biomedical Engineering,
 Owen H. and Sarah Davidson Wangenstein Chair in
 Experimental Surgery, Emeritus University of Minnesota

continued from page 7

talked about the partnership and respect of working together with the staff to advance human health was a statement of mutual respect and value that I really appreciated. I like the can-do attitude and the fearless nature of moving forward. We’ve done great things, and we’ve got a tremendous history. We’re moving into a new phase; we’ve got a new building, and we’ve got a new attitude.”

And a new CEO prepared to take the Endocrine Society to its next remarkable level. **EN**

Mark A. Newman
 Managing Editor, *Endocrine News*

COMING IN THE **MARCH**

ENDOCRINE news

- Understanding Patients’ Cultural Differences
- Unlocking the Disparities of Diabetes
- The Racial Divide of Thyroid Cancer

By Derek Bagley

TOMATO-RICH DIET May Lower Breast Cancer Risk

Postmenopausal women who are at risk for breast cancer may benefit from a tomato-rich diet, according to a study recently published in the *Journal of Clinical Endocrinology & Metabolism*.

Breast cancer risk rises

with BMI in postmenopausal women, and tomatoes have been shown to have a positive effect on adiponectin, which regulates blood sugar and fat levels.

Researchers led by Adana Llanos, PhD, MPH, of Rutgers University, examined the effects of a tomato-rich diet versus a soy-rich diet in 70 postmenopausal women. For 10 weeks, the women ate a tomato-rich diet (at least 25mg of lycopene each day); and then for another 10 weeks, the

participants at a soy-rich diet of ate least 40g daily.

“The advantages of eating plenty of tomatoes and tomato-based products, even for a short period, were clearly evident in our findings,” Llanos said.

After the tomato-rich diet, the women’s levels of adiponectin rose 9%, while after the soy-rich diet, the participants adiponectin levels actually fell. The scientists noted that the effects of tomatoes on adiponectin were even stronger in healthy-weight women and concluded that their findings demonstrate even further the importance of obesity prevention.



OTC THYROID MEDICATIONS Can Lead to HYPERTHYROIDISM

People taking over-the-counter (OTC) thyroid supplements may not be getting exactly what they paid for, new research presented at the Endocrine Society’s Hormone & Health Science Writers Conference suggests.

“It’s time to separate fact from fantasy,” says Stephanie Lee, PhD, MD, of the Boston Medical Center. Lee points out that patients often come in with “too much information” because of what they read online about what they perceive to be their own thyroid disorder and the OTC thyroid supplements that they take.

In fact, Lee says, only about 6% to 8% of women actually have hypothyroidism, but many others have been convinced they do as well by the media telling them that feeling tired and gaining weight means they have a thyroid condition – when those “symptoms” are more often just natural signs of getting older.

Now, patients are turning to supplements and complementary alternative medicines (CAM) for symptoms they think are related to hypothyroidism. This can be very dangerous, as these supplements contain active thyroid hormones such as T3 and T4, which can make these patients develop hyperthyroidism.

“Just because you’re feeling ‘fat and foggy’ [referencing an old magazine advertisement], doesn’t mean it’s your thyroid,” Lee says.



Obese Children Have HIGHER STRESS HORMONE LEVELS

Obese children naturally produce higher levels of the stress hormone cortisol than children who are a normal weight, according to a paper published in the *Journal of Clinical Endocrinology & Metabolism*.

Stress causes the body to produce cortisol, and if a person experiences prolonged or frequent stress, the cortisol can build up in the blood and cause adverse effects and health problems.

Cortisol found in scalp hair reflects long-term exposure. The researchers, led by Erica van den Akker, MD, PhD, of Erasmus MC-Sophia Children’s Hospital in Rotterdam, the Netherlands, studied hair samples from 20 obese children and 20 normal-weight children, measuring long-term cortisol levels.

The obese children exhibited an average cortisol level concentration of 25pg/mg, while the normal-weight cohort showed an average cortisol concentration of 17pg/mg.

“We were surprised to find obese children, as young as age 8, already had elevated cortisol levels,” van den Akker said. “By analyzing children’s scalp hair, we were able to confirm high cortisol levels persisted over time.”

However, the authors concluded, more research is needed to determine the cause of these findings, as they were not able to tell whether the obese children “actually experience more psychological stress” or whether their bodies handle stress differently than their normal-weight counterparts.

Oral Anti-Diabetic Drugs May **LOWER RISK OF CANCER** in Women with T2D

Certain commonly prescribed diabetic drugs can significantly lower the risk of cancer in women with type 2 diabetes, a recent paper published in the journal *Diabetes, Obesity and Metabolism* has shown.

Researchers at the Cleveland Clinic, led by Sangeeta R. Kashyap, MD, wrote that “Type 2 diabetes mellitus conveys increased cancer risk compared with the non-diabetes population,” and so conducted a retrospective analysis of the electronic health record-based Cleveland Clinic Diabetes Registry (25,613 patients), cross-indexed it with the histology-based tumor registry (48,051 cancer occurrences), over an

eight-year period (1998–2006). They identified 892 cancer cases, with prostate and breast cancers most prevalent.

The study examined the differences between insulin sensitizers (biguanides and thiazolidinediones) and insulin secretagogues (sulphonylurea and meglitinide). The scientists found that in women, thiazolidinedione was associated with a 32% decreased cancer risk, compared with sulphonylurea use (hazard ratio (HR) 0.68; 95% confidence interval (CI) 0.48–0.97, in the adjusted analysis). “Comparison of insulin secretagogues versus insulin sensitizers demonstrated a 21% decreased cancer risk in insulin

sensitizers [HR 0.79 (95% CI 0.64–0.98) in the adjusted analysis],” they wrote. The men in the study exhibited no differences in their risk of cancer after oral diabetes treatment. The researchers noted that “startling differences demonstrated between men and women needs to be re-examined in future research.”

“The results of this study highlight the gender-specific impact of oral diabetes therapy on cancer risk,” the authors concluded. “We demonstrate a significantly lower cancer risk in women taking oral hypoglycaemic agents that mitigate insulin resistance, compared with agents that augment endogenous insulin levels.”

Sleep Deprivation **INCREASES**

Men who have lost an entire night of sleep may find themselves purchasing more food the next day, according to a recent article published in the journal *Obesity*.

Colin C. Chapman, of Uppsala University in Sweden, and colleagues kept 14 normal-weight men awake through the night — total sleep deprivation (TSD) — then gave them a fixed budget of 300SEK (about US \$50). The researchers told the men to purchase “as much as they could” out of a possible 40 items, including 20 high-caloric foods (>2 kcal/g) and 20 low-caloric foods (<2 kcal/g). The prices of the high-caloric foods were then varied (75%, 100% [reference price], and 125%) to determine whether TSD affects the flexibility of food purchasing. The men were also given a standardized breakfast in order to minimize “the potential confound produced by hunger.”

The participants purchased significantly 9% more calories and 18% more grams of food than they did after a night of sleep

FOOD PURCHASING in Men

(both $P < 0.05$), independent of the food that was offered and the price of the food. The scientists also noted that morning plasma ghrelin concentrations were also higher after TSD ($P < 0.05$), but the increase did not correlate with the effects of TSD on food purchasing.

The authors concluded that TSD does in fact alter food purchasing behavior in men and went on to say that they “chose TSD to investigate the influence of sleep loss on food purchasing behavior in humans, [and their] findings are broadly significant for people working in a variety of professions, including shift workers, cab drivers, nurses, doctors, and other jobs requiring work at night.”



The Endocrine Society Releases **SCIENTIFIC STATEMENT ON PEDs**

The Endocrine Society recently released its Scientific Statement on the health consequences of using and abusing performance-enhancing drugs (PEDs), representing a comprehensive evaluation of available information.

PEDs are most often associated with elite athletes, but, according to Shalender Bhasin, MD, of Brigham and Women's Hospital, and chair of the expert panel who developed the statement, that is a "widespread misconception, and the vast majority of PED users are not athletes at all, "just recreational weightlifters."

These non-athletes are more concerned with physical appearance and use PEDs to look leaner and more muscular. Bhasin says that users' focus stems from "our societal views of what a perfect human body should look like."

The Society's statement, published in *Endocrine Reviews*, details the

adverse effects and the dangerous toll these drugs can have on the body, especially after long-term use by those who develop a dependence to the PEDs and accumulate many years of abuse. PED use can cause infertility, gynecomastia, sexual dysfunction, hair loss, acne, and testicular atrophy. PED users are more susceptible to rage and are at a higher risk for violent acts, including homicide and suicide.

PED abuse is an "important public health concern that has largely remained subterranean so far," Bhasin says. "Punishing elite athletes has had an adverse effect because it neglects the real health problems [abuse by non-athletes]."

The statement goes on to list some unmet needs and opportunities for dealing with this public health concern:

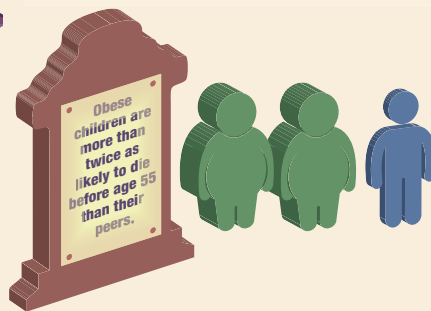
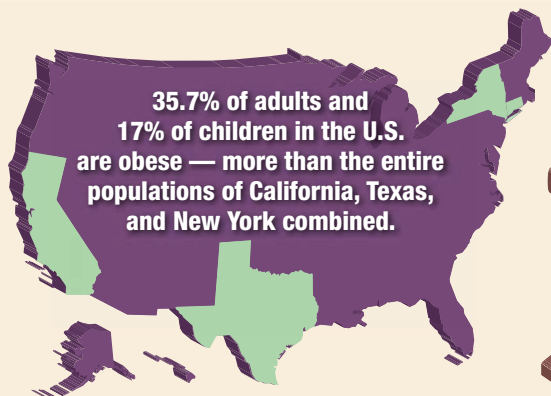
- The majority of PED users are under the age of 50, as widespread illicit use of

PEDs did not appear until the late 1980s and early 1990s.

- PED use is usually covert. People are less apt to disclose PED use than other drugs.
- Randomized trials of PED use are not possible because of ethical concerns. Most evidence of medical consequences of PED use come from animal models, case-control studies, case reports, and retrospective surveys.
- Observation studies, implemented by establishing a registry, are needed to monitor long-term health consequences of PEDs. This may be the only feasible method of collecting scientifically meaningful outcome data.



Fast **FACTS** About Obesity



More chronic conditions are tied to obesity than smoking, drinking, or poverty.

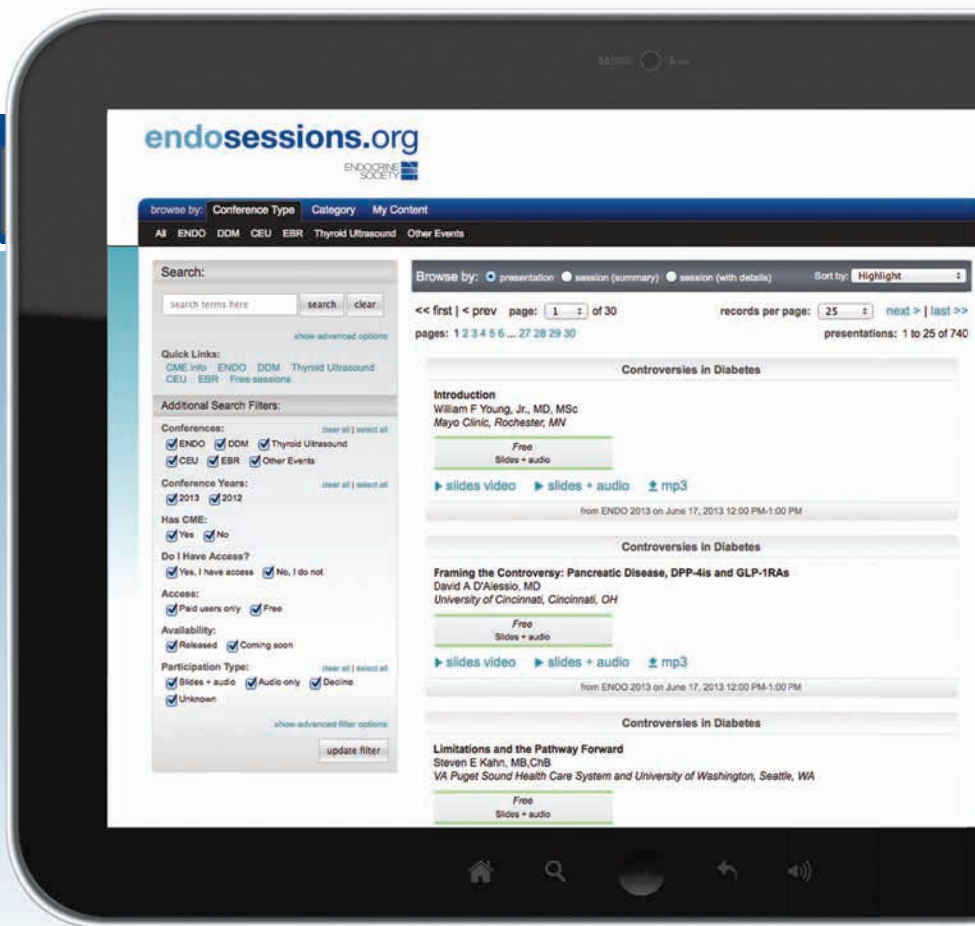


DID YOU MISS YOUR OPPORTUNITY TO ATTEND A SESSION OR A MEETING ?

Purchase session recordings from our most popular meetings and access recorded webcasts of sessions with audio synchronized slides from some of the Society's major meetings. Each session recordings includes plenary lectures, symposia, panel discussions, and case-based Meet-the-Professor sessions from leading experts in the

AVAILABLE SESSION RECORDINGS:

- ENDO 2012 and 2013
- Diabetes Diagnosis & Management 2013
- 2013 Clinical Endocrinology Update
- 2013 Endocrine Board Review Online
- 2013 Pediatric Endocrine Board Review Online
- Plus more!



ORDER TODAY AT

endosessions.org

ENDOCRINE
SOCIETY 

Increase Your Endocrinology Knowledge with *Endocrine Essentials*

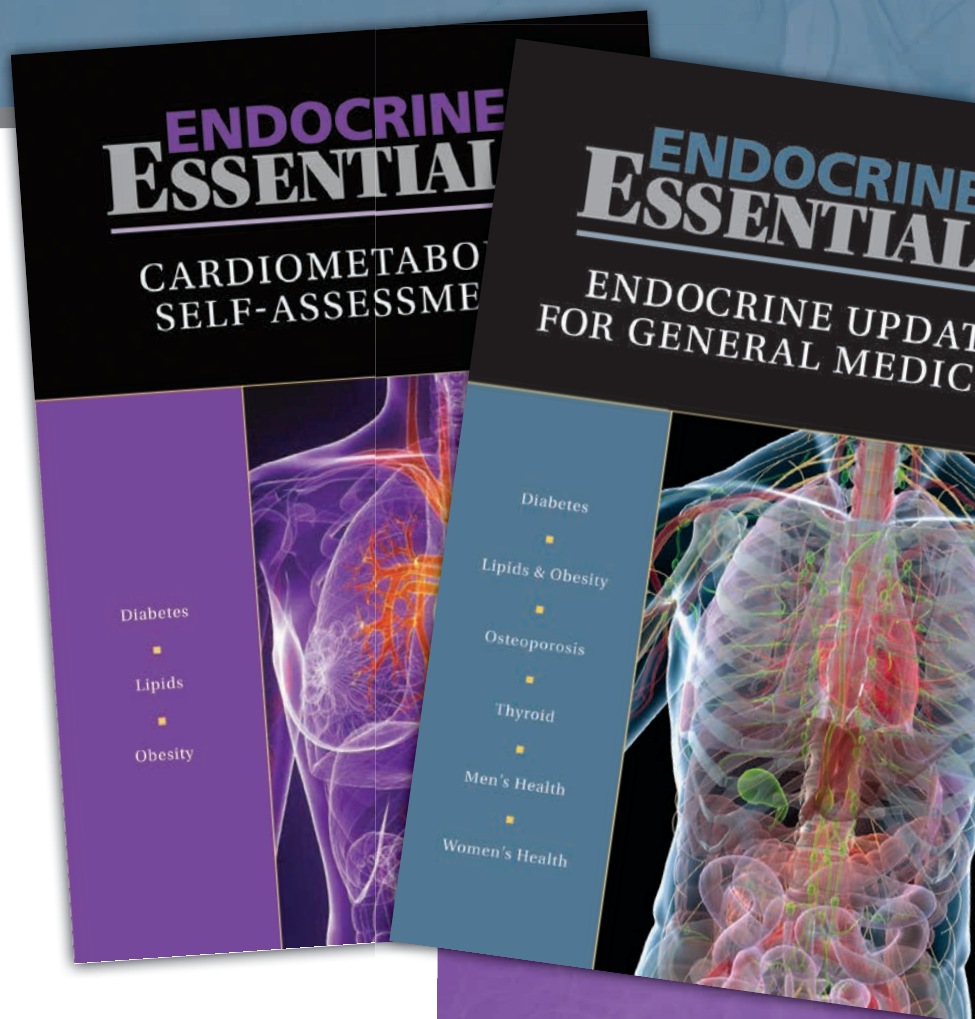
Endocrine Essentials provides rational, evidence-based approaches to clinical dilemmas in practice, as well as those found on board examinations in internal medicine or endocrinology.

NEW! *Endocrine Update for General Medicine*
Features the best cases from the ENDO Meet-the-Professor 2011 faculty, 216 pages
Nonmember: \$95
Member: \$75
Early Career/In-Training Member: \$60

Cardiometabolic Self-Assessment
Adapted from our best-selling self-study program, *ESAP*,™ 176 pages
Nonmember: \$95
Member: \$65
Early Career/In-Training Member: \$50

Save \$20 or more when you order both *Essentials!*
Nonmember: \$150
Member: \$120
Early Career/In-Training Member: \$95

For more information about *Endocrine Essentials* visit, www.endocrine.org/endocrineessentials.



Save time and stay informed with these comprehensive resources!

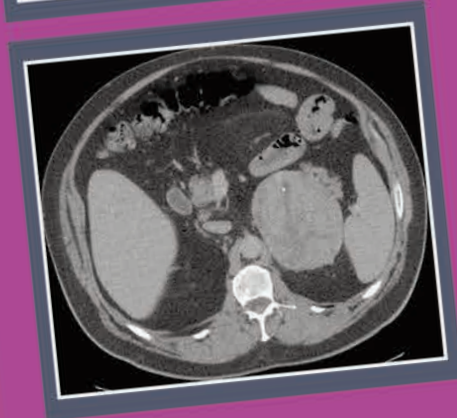
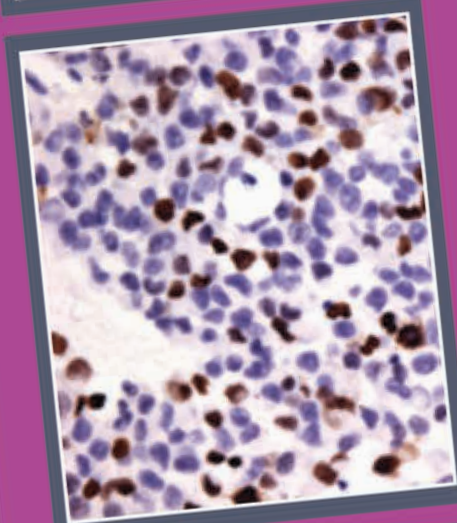
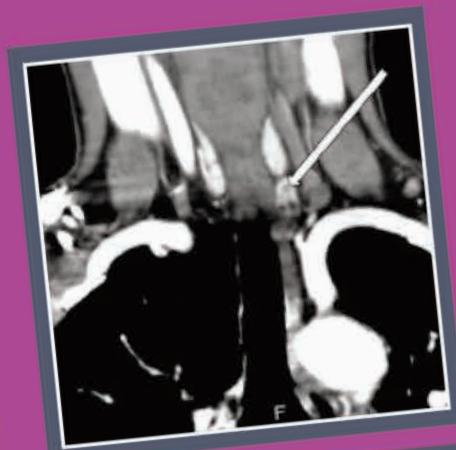
Ensure quality care with the new ESAP™ 2013

Updated with 100% new content and 160 case-based questions, the latest edition of *Endocrine Self-Assessment Program (ESAP)* will measure your knowledge and improve your ability to treat patients.

Based on the ABIM blueprint for certification, *ESAP* is also an excellent resource for preparing for certification and maintenance of certification.

Earn up to 50 *AMA PRA Category 1 Credits™*.

To purchase or to learn more, visit endoselfassessment.org.



ESAP™ 2013

ENDOCRINE
SELF-ASSESSMENT
PROGRAM

QUESTIONS
ANSWERS
DISCUSSIONS



ENDOCRINE
SOCIETY

Ensure quality care with Clinical Practice Guidelines from the Endocrine Society

NEW! Get the latest scientific evidence and best practice advice with our guideline *Diagnosis and Treatment of Polycystic Ovary Syndrome*.

INCLUDES

- ▶ Diagnosing different subpopulations
- ▶ Associated morbidities, including fertility, obesity, endometrial cancer, and depression
- ▶ Treatment through hormonal contraceptives, lifestyle changes, and other medications

Download the guideline at endocrine.org/CPG.

The Society's Clinical Practice Guidelines are developed by a team of experts, through a rigorous and multi-step, peer-review process to ensure the highest quality, evidence-based recommendations.

To purchase Endocrine Society Clinical Practice Guidelines visit endocrine.org/store.



Ensure quality care with Clinical Practice Guidelines from the Endocrine Society

NEW! Get the latest scientific evidence and best practice advice with our guideline *Diabetes and Pregnancy*.

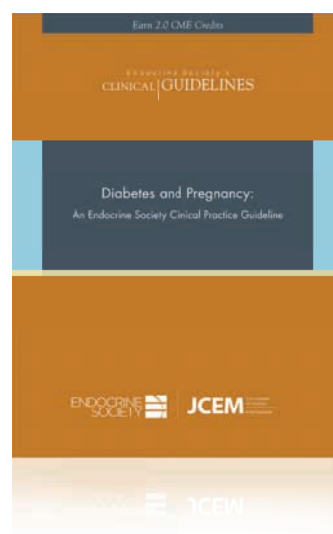
INCLUDES

- ▶ Management of women with type 1 or type 2 diabetes preconceptionally, during, and in the postpartum setting
- ▶ Diagnosis and management of women with gestational diabetes during and after pregnancy

Download the guideline at
endocrine.org/CPG.

The Society's Clinical Practice Guidelines are developed by a team of experts, through a rigorous and multi-step, peer-review process to ensure the highest quality, evidence-based recommendations.

Purchase *2013 Compendium of Clinical Practice Guidelines* online at endocrine.org/store.



HEAVY METTLE

New research shows that **obesity** plays a larger role in the onset of **dementia** than previously thought.

By Melissa Mapes

AT-A-GLANCE

- Combatting obesity after a certain age was once considered pointless but that theory has been debunked by a number of recent studies.
- Overweight and obese adults are more likely to develop dementia and Alzheimer's disease later in life.
- Unless action is taken immediately, the current generations of obese children and young adults could face an extremely difficult old age.

Obesity comes with a plethora of terrible conditions. This is old news. Yet, an onslaught of recent discoveries among the overweight and elderly population has brought new concerns to light. Studies show that mortality and other serious risks apply to aging patients with high BMI scores, despite the common belief that people over 65 years of age face no increased consequences for extra pounds.

Nearly 30 years have passed since the obesity epidemic in the U.S. became a well-recognized concern. Physicians have fought to stymie the growing list of comorbidities: diabetes, heart disease, metabolic syndrome, hypertension, stroke, and more. But until recently, many experts believed in a so-called “obesity paradox” that claimed overweight and obese individuals will live just as long, if not longer, than healthy-weight individuals after retirement age. Battling the bulge after a certain age was often considered pointless. New research on elderly obese individuals has disproven this theory and revealed some surprising additions to the list of correlated diseases.

Cognitive Functioning

Many studies have focused on obesity and mental cognition in an aging population, but lacked the long-term data to prove the relationship. Kaiser Permanente decided to exercise its considerable patient database to elucidate this topic, and the results were damning. The 27-year longitudinal study, which was recently published in the *British Medical Journal (BMJ)*, found a 74% increased risk of dementia among individuals with a BMI >30 (defined as obese) in comparison to healthy-weight individuals. Overweight participants — defined as a BMI between 25 and 29.9 — also had a 35% elevated risk of dementia.

The data included over 10,000 individuals, who participated in thorough health evaluations from 1964 to 1973 when they were between the ages of 40 and 45 years old, and who were still enrolled in the health plan in 1994. The patients in Kaiser’s study were born prior to the baby boom following World War

II, meaning that the next generation of elderly will be significantly larger in both population and, quite likely, weight. Genuine concerns over the costs of caring for baby boomers in old age continue to burden the public and policymakers, and these worries are compounded by the effects of obesity.

The authors concluded that, “With the aging of the population, it is expected that the incidence of dementia will increase 400% in the next 20 years.” The worldwide cost of dementia already exceeds \$600 billion per year according to the World Health Organization (WHO). On a global scale, WHO estimates this population will double by 2030 to 65.7 million, and more than triple by 2050 to 115.4 million. In combination with obesity, the price of these two conditions could be crippling to the world’s economy.

Although the exact connection between weight and cognitive functioning remains unknown, the scientific evidence is clear: Overweight and obese adults are more likely to develop dementia and Alzheimer’s disease. Some researchers theorize that proteins released into the bloodstream by adipose tissue have a damaging effect on the brain, but consensus among experts has not been reached. Other issues among the obese elderly have proven easier to dissect.

Handle with Care

The condition of obesity seems to affect nearly all bodily systems in mid to old age — even bones. Increased weight generally leads to increased muscle and bone mass due to the extra exertion of gravity and movement. However, studies have also shown obesity to be a major indicator of fracture risk.

“Those patients with obesity in midlife have five times higher risk of developing frailty during the next two decades compared to those who were normal weight at midlife,” says Sari Stenholm, PhD, senior researcher at the Academy of Finland and National Institute for Health and Welfare. He discovered these statistics as a part of his recent 22-year, follow-up study of the relationship between obesity and frailty in midlife to old age in the male and female Finnish population.

Once an individual has reached old age, treatment for obesity and its comorbidities becomes more difficult. In addition to cognitive decline, Stenholm’s research has shown a significant risk of osteoarthritis in obese elderly patients, and thus a greater possibility of disability. Patients that do manage to lose weight in old age are probably too late to reverse these effects, as they are likely losing muscle mass and bone density along with fat loss. Intervention in midlife might offer the only solution.

“I believe we really should start thinking about aging from the ‘life course’ perspective. It is hard to do major lifestyle changes in your seventies, but by avoiding excess weight and other unhealthy manners in midlife, you can really make a difference in terms of health and functioning in old age,” Stenholm explains.

The obese participants in his study that maintained physical activity fared better than obese individuals



“It is hard to do major lifestyle changes in your seventies, but by avoiding excess weight and other unhealthy manners in midlife, you can really make a difference in terms of health and functioning in old age.”

— Sari Stenholm, PhD, senior researcher, Academy of Finland and National Institute for Health and Welfare

who lived a sedentary lifestyle. Stenholm notes that muscle strength is a sizeable factor in a patient's likelihood of becoming frail.

The fear of muscle loss and frailty partially contributed to the past theory that weight loss has no benefits over 65 years of age. This puzzling conclusion does not factor in the positive effects of physical activity and good nutrition, which has led many experts to call its validity into question. Weight loss and exercise might be more difficult and dangerous over a certain age, but can actually increase one's life expectancy.

Risk of Death

The outdated belief that obesity past a certain age proves no additional mortality risk originates from one central flaw in the National Health Interview Service (NHIS). According to Ryan Masters, PhD, a scholar at Columbia University's Mailman School of Public Health, "Obesity wreaks so much havoc on one's long-term survival capacity that obese adults either don't live long enough to be included in the survey or they are institutionalized and, therefore, also excluded."

Obese individuals in nursing homes were left out of the original NHIS research, which thus ignored crucial overweight populations and skewed obesity in the elderly toward an innocuous status. Patients with dementia, fractures, stroke, and other obesity-related conditions did not make the cut due to placement in an assisted-living facility. This inspired Masters and his colleagues to

take a new approach, and their work recently found its way into the *American Journal of Epidemiology*.

Masters reevaluated the NHIS survey by comparing it to 800,000 records from the National Death Index (NDI) for adults surveyed between 1986 and 2006. He found that obesity correlates to a higher risk of death with age — reversing old conclusions. "This study should put to rest the notion that it's possible to 'age out' of obesity risk and provides a powerful counterfactual against those who say concern over obesity is overhyped," Bruce Link, PhD, professor of Epidemiology and Sociomedical Sciences at the Columbia University and co-author on the study, told *Science* magazine.

Using the same data, Masters was able to prove that obesity causes far more deaths in the general population than previously thought. The reigning mortality statistic for obesity has been 5%. His new research shows a death toll of 18% for black and white Americans aged 40 to 85. Black women showed the highest rate of weight-related mortality at 27%, followed by white women at 21%.

Link believes that we are yet to see the worst effects of extra weight. He believes that the current generation of obese children will likely display more frightening symptoms when they reach adulthood, and especially if they make it to old age. Only time will tell if he is correct, but the additions of cognitive functioning and frailty to the list of obesity concerns do not bode well for the future. **EN**

— *Mapes is a freelance writer in Washington, D.C. She wrote about how to set up an in-house laboratory in the January issue.*



**“Those patients with obesity in midlife
have five times higher risk of developing frailty
during the next two decades compared to those who were normal weight at midlife.”**

— *Sari Stenholm, PhD, senior researcher,
Academy of Finland and National Institute for Health and Welfare*

The Market for



The demand for kidneys far outstrips the supply. Could offering financial incentives help bridge the gap and save lives?

By Aalok Mehta

Far more people need kidneys than the supply of available organs. The current U.S. waitlist for a kidney has reached nearly 100,000 people, but only between 16,000 and 17,000 kidneys are transplanted each year, according to recent data from the Health Resources & Services Administration. Economists have long pondered whether offering people financial incentives to donate kidneys might be the best way to address this huge mismatch between supply and demand. Now,

growing evidence from trials in other areas of medicine suggests that financial incentives are a potent way to improve national health.

“There is a huge gap between deceased donation and existing demand. This gap will never be filled by deceased donation,” says Dorry Segev, an associate professor of surgery at Johns Hopkins University School of Medicine. He adds that people are living longer and increasingly suffering from diseases such as high blood pressure that make

AT-A-GLANCE

- Nearly 100,000 people are waiting for kidneys in the U.S., and thousands die each year while on the waitlist.
- Offering potential donors health insurance, cash payments, or other financial incentives may help relieve the shortfall.
- The sale of human organs is currently banned in the U.S., and kidney markets face serious cultural and ethical obstacles.

KIDNEYS

kidney donation impossible. “So you have to try to get living donors to meet the demand that is out there.”

Kidneys are among the few organs where living donation is feasible: Many people are healthy enough to live problem-free with only one kidney. Currently, around a third of kidney transplants come from living donors. Such kidneys lead to better health outcomes, with living donations lasting roughly twice as long as those that come from deceased donors, according to the National Kidney Registry.

The vast majority of these donations go to family members; people are less willing to donate to strangers. They might be tempted by financial compensation, but the National Organ Transplant Act of 1984, outlawed the sale of human organs. Economists and health policy experts, however, argue that the time has come to reconsider financial incentives for kidney donation.

“Despite many and multifaceted methods to get people to donate kidneys, various approaches to increase organ procurement have not succeeded,” says Benjamin Hippen, a nephrologist at Metrolina Nephrology Associates and a clinical associate professor at the University of North Carolina, Chapel Hill. That, in turn, drives desperate patients to turn to medical tourism and the organ black market. “It’s a dangerous and unjust system,” he says.

Cash for Kidneys?

Bolstering the case are positive outcomes from various clinical trials of financial incentives for reducing smoking, obesity, and other unhealthy behaviors. “Current trends regarding the use of financial incentives in medicine suggest that the time is ripe for new consideration of payments for living kidney donation,”

write Matthew B. Allen and Peter P. Reese of the University of Pennsylvania’s Perelman School of Medicine in a recent editorial in the *Clinical Journal of the American Society of Nephrology*.

Such incentives need not necessarily involve cash payments. Some proposals call for less controversial

Making a MATCH

Economists’ interest in kidney transplants extends beyond financial incentives. Researchers have also designed better ways to match donors and recipients — techniques that are now in widespread use and even helped garner a Nobel Prize. Kidney matching, in some ways, is like dating: Instead of a simple market mechanism, it involves “searching and wooing on both sides,” writes Stanford University economics professor Alvin E. Roth. Whereas in dating, romantic compatibility is key, in kidney donation immunocompatibility is the central issue. Many people are willing to donate a kidney to a family member, but have poor antigen matches.

Lloyd S. Shapley and Roth won the 2012 Nobel Prize in Economics for researching and designing stable, efficient methods to facilitate such matches across a variety of fields. Their work forms the backbone of the National Residency Matching Program that pairs new doctors with residency programs, as well as numerous local school-choice programs.

For transplants, economists developed a “paired kidney exchange,” which occurs when two potential donors “swap” their preferred recipients to maximize compatibility. The end result is that both recipients walk away with well-matched organs. These exchanges began in just the past several years, after research by physicians led to better matching programs and a 2007 amendment to the National Organ Transplant Act of 1984 to permit swaps, says Dorry Segev, lead author of the paper. Such swaps aren’t limited to just pairs; one recent swap involved 14 donors and 14 recipients.

With non-directed donors — “Good Samaritans” who choose to donate without a specific recipient in mind — kidney chains become possible. The initial donation starts a domino effect of surgeries, leading to as many as 30 total transplants. Such chains have several advantages. “You don’t have to do donor operations at the same time,” says Segev, an associate professor of surgery at Johns Hopkins University School of Medicine, “and if someone backs down — which is rare — the chain gets broken but nobody loses their live donor, which is the case when pairs are involved.”

Despite their success, however, swaps and chains won’t solve the kidney shortfall. The National Kidney Registry has thus far helped facilitate about 900 transplants by creating a common database to match donors with compatible hosts, but experts estimate that at best matching systems could facilitate only 1,000 to 2,000 transplants per year. “The magnitude does not come close to meeting demand,” says Benjamin Hippen, a nephrologist at Metrolina Nephrology Associates and a clinical associate professor at the University of North Carolina, Chapel Hill. Pairing matches with a market system, however, could have great advantages. With a single non-directed donation, “you can turn one kidney into several transplants,” he says.



measures, such as providing donors with free lifetime health coverage. “Reducing disincentives to donation — such as covering lost work and medical insurance for people who have donated — has value,” Segev says. Hippen adds that such provisions could “accomplish larger public policy objectives” by helping track the health of kidney donors over decades or longer. Currently, donors are only followed for two years, so many questions remain unanswered about the long-term health impacts of kidney donation.

Meanwhile, estimates of the social cost of the organ waitlist are enormous. Dialysis — the most common form of treatment for end-stage renal disease — requires multiple lengthy sessions per week, leading to poor quality of life. Transplant recipients also tend to live 10 to 15 years longer than those on dialysis, and more than 4,000 people die each year while on the kidney waitlist, according to the Organ Procurement and Transplantation Network. The average wait time of six years is also a problem, as researchers have found that the longer a person is on dialysis, the shorter their transplanted organ tends to last.

“There is a huge gap between deceased donation and existing demand.

This gap will never be filled by deceased donation.”

— Dorry Segev, associate professor of surgery, Johns Hopkins University School of Medicine

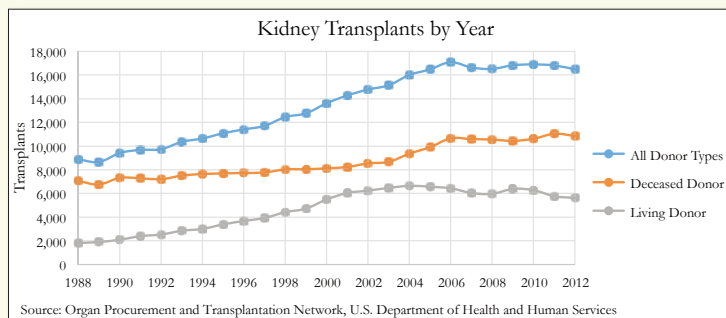
“We estimate a \$500,000 per-person value in getting access to kidneys,” says Gary S. Becker, a professor of economics and sociology at the University of Chicago, who recently co-wrote an economic analysis of a potential kidney market. This would place the total cost of the wait list at approximately \$50 billion.

In contrast, rough estimates place the monetary value of a kidney at “somewhere between \$10,000 and \$25,000,” says Becker, who is also a professor at the University of Chicago’s Booth School of Business and who won the 1992 Nobel Prize in Economics for extending economic analysis to “a wide range of human behavior and interaction, including nonmarket behavior.” This estimate includes lost time from work due to recovery and other health complications as well as the risk of death from surgery and a diminished quality of life. (Kidney transplants are considered very safe, with only roughly a 0.03% risk of death.) “The purchase and sale of kidneys would fully eliminate waiting lists and the shortage of kidneys,” Becker says.

Moreover, unlike the current system, you “can time surgery around the situation of the giver and recipient. Instead of missing your turn if you are too sick, you can wait a while until you recover,” Becker adds.

A Slippery Slope

Even proponents of kidney markets, however, acknowledge the visceral reaction that the idea incites. “It touches on a horror that is sometimes difficult to



express adequately,” Hippen says. “But that will dissipate, just as it did for sale of blood products.” The U.S., he says, represents the largest supplier of these products, such as plasma and clotting factors, while European countries forbid any compensation for blood donation. “They won’t buy it from their citizens, but they will buy it from the U.S.,” Hippen says.

Others worry about the “slippery slope” that offering financial compensation provides. “The problem is that when you offer money to people for an item, but that item has eligibility criterion, it becomes difficult to assess those criteria, putting both the donor and recipient at risk,” Segev says. For example, patients will be more likely to hide or disguise high blood pressure to ensure they could donate.

Another obstacle is the medical community. “There has to be a tremendous degree of trust between donor and recipient, and donor and provider for a market to work,” Segev adds. “Only a minority of physicians, however, favor financial incentives for donation.”

Hippen, however, points out that financial compensation for kidneys is already happening — in perhaps its most dangerous form. While there is no comprehensive data on the organ black market, he says, a recent World Health Organization memorandum estimated that underground trafficking comprises 10% of all transplanted organs. Such illicit markets offer fewer protections for both donor and recipient and disproportionately harm the extremely poor in countries such as China and India.

“Demand for illegal organs is primarily driven by wealthy people.

If demand is sated in people’s home countries, there won’t be significant economic return to support an illegal market. We can cut off the head of the snake.”

— Benjamin Hippen, nephrologist, Metrolina Nephrology Associates and clinical associate professor, University of North Carolina, Chapel Hill

“Demand for illegal organs is primarily driven by wealthy people,” Hippen says. “If demand is sated in people’s home countries, there won’t be significant economic return to support an illegal market. We can cut off the head of the snake.” EN

— Mehta is a freelance writer based in Cambridge, Mass. He wrote about why some kidney transplants fail in the October 2013 issue.

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.endocrine.org.



Empirically Based Composite Fracture Prediction Model from the Global Longitudinal Study of Osteoporosis in Postmenopausal Women (GLOW) •

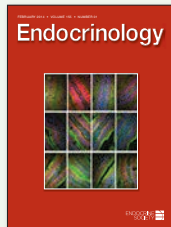
Gordon FitzGerald,

Juliet E. Compston, Roland D. Chapurlat, Johannes Pfeilschifter, Cyrus Cooper, David W. Hosmer, Jonathan D. Adachi, Frederick A. Anderson, Adolfo Díez-Pérez, Susan L. Greenspan, J. Coen Netelenbos, Jeri W. Nieves, Maurizio Rossini, Nelson B. Watts, Frederick H. Hooven, Andrea Z. LaCroix, Lyn March, Christian Roux, Kenneth G. Saag, Ethel S. Siris, Stuart Silverman, and Stephen H. Gehlbach • *After examining results for 10 different bone fracture sites, advanced age appeared the single best possibility for uniting several different sites, resulting in an empirically based composite fracture risk model.*

Feeding and Bone Turnover in Gastric Bypass • Juan P. Valderas, Oslando Padilla, Sandra Solari, Manuel Escalona, and Gilberto González • *The acute reduction in bone resorption after feeding is preserved in RYGB and even is higher than in non-operated subjects. This phenomenon is related to the increase of post-prandial levels of insulin. These findings suggest a bone-protecting mechanism in RYGB that may counteract the elevated bone resorption that occurs during fasting.*

Assessment of Thyroid Function During First-Trimester Pregnancy: What Is the Rational Upper Limit of Serum TSH During the First Trimester in Chinese Pregnant Women? • Chenyan Li, Zhongyan Shan, Jinyuan Mao, Weiwei Wang, Xiaochen Xie, Weiwei Zhou, Chenyang Li, Bin Xu, Lihua Bi, Tao Meng, Jianling Du, Shaowei Zhang, Zhengnan Gao, Xiaomei Zhang, Liu Yang, Chenling Fan, and Weiping Teng • *The reference range for nonpregnant women can be used for the assessment of pregnant women at four to six weeks of gestation. The*

upper limit of serum TSH in the first trimester was much higher than 2.5 mIU/L in Chinese pregnant women.



An N-Ethyl-N-Nitrosourea Induced Corticotropin Releasing Hormone Promoter Mutation Provides a Mouse Model for Endogenous Glucocorticoid Excess • Liz

Bentley, Christopher T. Esapa, M. Andrew Nesbit, Rosie A. Head, Holly Evans, Darren Lath, Cheryl L. Scudamore, Tertius A. Hough, Christine Podrini, Fadi M. Hannan, William D. Fraser, Peter I. Croucher, Matthew A. Brown, Steve D. M. Brown, Roger D. Cox, and Rajesh V. Thakker • *A mouse model for Cushing's syndrome has been established, and this will help in further elucidating pathophysiological effects of glucocorticoid excess and in evaluating treatments for corticosteroid-induced osteoporosis.*

Fetal and Neonatal Iron Deficiency Exacerbates Mild Thyroid Hormone Insufficiency Effects on Male Thyroid Hormone Levels and Brain Thyroid Hormone-Responsive Gene Expression • Thomas W. Bastian, Joseph R. Prohaska, Michael K. Georgieff, and Grant W. Anderson • *The data suggest that combining two mild thyroidal insults during development significantly disrupts thyroid function and impairs TH-regulated brain gene expression.*

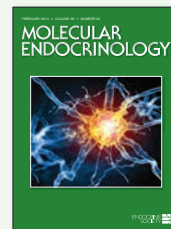
Role of Cortactin in Dynamic Actin Remodeling Events in Gonadotrope Cells • Amy M. Navratil, Melissa G. Dozier, Jennifer D. Whitesell, Colin M. Clay, and Mark S. Roberson • *The findings suggest that following GnRH α activation, src activity leads to tyrosine phosphorylation of cortactin, which facilitates its association with Arp3 to engage the actin cytoskeleton. The reorganization of actin by cortactin potentially underlies GnRH α induced secretory events within α T3-1 cells.*



Thyroid Hormone, Thyromimetics, and Metabolic Efficiency •

Einav Yehuda-Shnaidman, Bella Kalderon, and Jacob Bar-Tana • *Permeability transition pore (PTP) gating*

may offer a unified target for some TH pleiotropic activities and may serve as a novel target for synthetic functional thyromimetics designed to modulate metabolic efficiency. PTP gating by long-chain fatty acid analogs may serve as a model for such strategy.



Both Estrogen Receptor Alpha and Beta Stimulate Pituitary GH Gene Expression •

Dimiter Avtanski, Horacio Novaira, Sheng Wu, Christopher J. Romero, Rhonda

Kineman, Raul M. Luque, Fredric Wondisford, and Sally Radovick • *The authors propose a mechanism by which estrogen directly regulates somatotroph GH synthesis at a pretranslational level. In contrast to the predominant effect of ER α in the lactotroph, these results support a role for both ER α and ER β in the transcriptional control of Gh in the somatotroph and illustrate important differences in ER isoform specificity in the anterior pituitary.*

Vitamin D Is a Regulator of Endothelial Nitric Oxide Synthase and Arterial Stiffness in Mice • Olena Andrukhova, Svetlana Slavic, Ute Zeitz, Sabine C. Riesen, Monika S. Heppelmann, Tamas D. Ambrisko, Mato Markovic, Wolfgang M. Kuebler, and Reinhold G. Erben • *The data demonstrate the importance of intact VDR signaling in the preservation of vascular function and may provide a mechanistic explanation for epidemiological data in humans showing that vitamin D insufficiency is associated with hypertension and endothelial dysfunction.*

Double WHAMMY

Managing diabetes is a challenge, but when you add celiac disease on top of that, many patients feel overwhelmed.

By Terri D'Arrigo

Type 1 diabetes and celiac disease each come with their own requirements for disease management. But add the two together in a dual diagnosis and the challenge equals more than the sum of its parts. If a child or young adult is diagnosed with both diseases, it can be overwhelming for both the patient and family. Adults who have lived with diabetes for years and are later diagnosed with celiac have to learn a new way of eating.

“Having a diagnosis of celiac on top of diabetes is tough. Patients are already counting carbohydrates, but this adds another level of work,” says Laurie A. Higgins, MS, RD, LDN, CDE, coordinator of Pediatric Nutrition Education and Research at the Joslin Clinic in Boston. “Many of the old standbys they were using to manage diabetes no longer apply. For example, we often tell people with diabetes to have high-fiber grains, which would include wheat. That’s not going to work anymore. It’s a whole new lifestyle.”

To Screen or Not to Screen

A study appearing in the March 2004 *Endocrinology and Metabolism Clinics of North America* found that 10% of people with diabetes will be affected by celiac disease at some point in their lives. More recent studies, such as one in the March 2012 *Italian Journal of Pediatrics* and one appearing in the February 2013 *Endocrine*, suggest that between .6%

AT-A-GLANCE

- Celiac disease is more common in people with type 1 diabetes than in the general population, but guidelines differ on whether patients with type 1 diabetes should be screened for celiac disease as a matter of course.
- Symptoms of celiac disease overlap with symptoms of other gastrointestinal conditions, including diabetes-related gastroparesis.
- Intestinal damage caused by celiac disease can affect carbohydrate absorption and make type 1 diabetes difficult to control. This damage may also affect absorption of oral medications and vitamins.

celiac

and 16.4% of people with type 1 diabetes have celiac disease. This puts people with type 1 diabetes into a high-risk group for developing celiac disease.

Yet guidelines differ concerning whether patients with type 1 diabetes should be screened for celiac as a matter of course. The American Gastroenterological Association's guidelines do not recommend screening for celiac disease even in high-risk groups unless patients have symptoms. The American Diabetes Association's *Standards of Medical Care in Diabetes 2013* encourages screening in children soon after a diagnosis of type 1 diabetes and if children have signs and symptoms of celiac disease, but makes no mention of testing in adults. The North

American Society for Pediatric Gastroenterology, Hepatology and Nutrition recommends screening in high-risk groups and repeat screenings at regular intervals for high-risk patients who do not have symptoms and whose blood tests are negative for the autoantibodies indicative of celiac disease.

Much has been written in the literature both for and against screening. Arguments against screening include low adherence to gluten-free diets and the impact these diets can have on quality of life. Studies from Finland, Israel, Italy, the United Kingdom, and the U.S., as cited in the January 2012 *Therapeutic Advances in Gastroenterology*, indicate that strict adherence to gluten-free diets in patients with celiac disease ranges from 8% to 91%, with an average of roughly 62% worldwide and 74.6% in the U.S. Arguments for screening include the long-term complications of celiac disease such as osteoporosis, infertility, iron-deficiency anemia, and celiac disease-related malignancies, and the fact that patients can live free or nearly free of symptoms for decades even as the

“Many patients will struggle and not know how to talk about it.”

The easiest way to approach it is to ask them what they feel is the most difficult part of dealing with celiac disease, diabetes, or both.”

— Jessica T. Markowitz, PhD, clinical psychologist and research associate, Joslin Diabetes Center and instructor, in psychology, Department of Psychiatry, Harvard Medical School, Boston

disease wreaks havoc on their intestines.

Alessio Fasano, MD, chief of Pediatric Gastroenterology and Nutrition at Mass-General Hospital for Children in Boston and founder of the Center for Celiac Research understands the concerns about screening, but supports it.

“If the tests are positive but the patient doesn't have any symptoms, it can be tough to convince the patient to go on another restrictive diet. They ask what the investment is,” Fasano says. “I explain to them that even if they don't need to treat symptoms, a gluten-free diet will help them avoid problems later and potentially help them manage their diabetes.”

The symptoms of celiac disease are too vague not to screen patients with type

1 diabetes, says Carol Brunzell, RDN, LD, CDE, dietitian at the University of Minnesota Medical Center, Fairview, in Minneapolis. “Bloating, nausea, and early satiety, often overlap with symptoms of other conditions, including diabetes-related gastroparesis.”

The experts agree that if a physician suspects celiac disease, the patient should be counseled not to start a gluten-free diet until after testing is complete.

“Once you go gluten-free, it becomes hard to diagnose celiac disease because the gut will heal and the blood work [for autoantibodies] will go back to normal,” says Higgins.

Impact of Celiac Disease on Diabetes

Fasano says that the damage caused by celiac disease can affect blood glucose management, something that endocrinologists should keep in mind when working with their patients with diabetes. “The intestinal damage makes carbohydrate absorption unpredictable. Often, the problems start in the area of the gut where the highest



gluten free

concentration of gluten will be after eating — the duodenum and jejunum — but some patients have more diffuse lesions that will affect absorption.”

He added that physicians and patients should also remember that oral medications and vitamin supplements can be affected by malabsorption.

Higgins emphasizes that patients who have diabetes and celiac disease should prepare for both high and low blood glucose. “With insulin, the dose is based on carbohydrates. If carbohydrates have not been absorbed when the insulin peaks, the patient may have a low,” she explains. “But if the carbohydrates are absorbed later, after the insulin peaks, that low may be followed by a high.”

Planning for low blood glucose can be tricky for patients with diabetes and celiac disease, says Marlisa Brown, MS, RD, CDE, CDN, past president of the New York State Dietetic Association, dietitian in private practice, and author of gluten-free books. “They can’t just grab any nearby carbohydrates, such as crackers, bread, licorice, or other candy to treat their low blood sugar. It has to be gluten-free, as well.”

The experts agree that as patients follow a gluten-free diet and their intestines heal, they may need to adjust their insulin along the way, and physicians may need to make dose adjustments in oral medications. Healing generally takes six months to a year in children and one to two years in adults.

According to Brunzell, patients who use insulin pumps should be counseled not to rely on the pre-programmed settings. “They should be basing their insulin on carbohydrates, anyway,” she says. “The carb counts on gluten-free substitutions may be different than regular foods, so they need to read labels.”

Tips for Endocrinologists

Endocrinologists and other physicians who treat patients with both diabetes and celiac disease should be aware of the social and psychological impact a dual diagnosis can have and be able to refer patients to mental health professionals and relevant

“The reality is that both are autoimmune diseases, and avoiding gluten for celiac disease is just as important as taking insulin for diabetes.”

Both diseases will kill the patient if you don’t treat them. It’s just that people with celiac disease will die more slowly.”

— Alessio Fasano, MD, chief of Pediatric Gastroenterology and Nutrition, MassGeneral Hospital for Children, Boston

support groups, says Jessica T. Markowitz, PhD, clinical psychologist and research associate at the Joslin Diabetes Center and Instructor in Psychology in the Department of Psychiatry at Harvard Medical School in Boston.

“The social aspects of celiac in particular are difficult. When people get together, they tend to eat, and now these patients need to worry about cross-contamination with gluten when they go to someone’s house or go out to a restaurant, on top of their diabetes,” she says. “Many patients will struggle and not know how to talk

about it. The easiest way to approach it is to ask them what they feel is the most difficult part of dealing with celiac disease, diabetes, or both.”

When physicians deliver a pediatric diagnosis, they should talk to the parents about how to discuss it with their children, Markowitz adds. “If the parents react like it’s horrible, the child will pick up on it. Let the child lead in terms of emotional response.”

Brown encourages physicians to design educational materials specific for patients with celiac disease and diabetes, even if it means hiring an expert to develop these materials.

“Have an intern or a dietitian put together a toolkit with lists that cover credible online resources, appropriate foods for treating hypoglycemia, gluten-free substitutions for common foods, and local restaurants that offer gluten-free choices,” says Brown.

Above all, take celiac disease seriously, says Fasano. “Sometimes [physicians] don’t think celiac is a big deal compared to type 1 diabetes. They know that if they don’t treat the diabetes, the patient will die, so they focus mostly on the diabetes,” he says. “The reality is that both are autoimmune diseases, and avoiding gluten for celiac disease is just as important as taking insulin for diabetes. Both diseases will kill the patient if you don’t treat them. It’s just that people with celiac disease will die more slowly.” **EN**

— D’Arrigo is a health and science writer based in Holbrook, N.Y., and a regular contributor to Endocrine News.



CLINICAL ENDOCRINOLOGY UPDATE

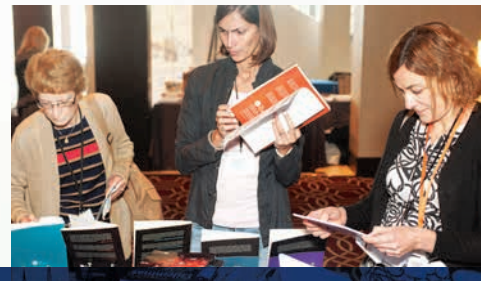


ENDOCRINE BOARD REVIEW

2014

HILTON SAN FRANCISCO UNION SQUARE SAN FRANCISCO, CA

Save the Date



SEPTEMBER 2-3

ENDOCRINE BOARD REVIEW

Whether you are seeking initial certification or recertification, the Society's Endocrine Board Review is the premier preparatory course. Get real-time feedback on your performance during an interactive mock exam, so you can focus your studies for the best results.

SEPTEMBER 4-6

CLINICAL ENDOCRINOLOGY UPDATE

Join your colleagues at CEU for the most recent information from across the entire field of endocrinology. Get the information you need to improve your practice in a dynamic and interactive format.

REGISTRATION OPENS MARCH 2014

Visit us online or call Society Services at **888.363.6762** (toll-free in the US) or **301.941.0210**.

Learn more at endocrine.org/sf.





With brand-new headquarters in the middle of Washington, D.C., the Endocrine Society is poised to take its place alongside other prestigious medical societies in the nation's capital.

By Derek Bagley

The Endocrine Society — the world's oldest, largest, and most active organization devoted to research on hormones and the clinical practice of endocrinology — has moved to a home befitting of its status. The new space is a 34,000-square-foot office condominium located at 2055 L Street NW, in the heart of the central business district in Washington, D.C.'s Golden Triangle.

This will mark the first time in the Society's nearly 100-year history that it has owned office space. The improved facility — located on the sixth floor of an eight-story building — provides the Society with space for expansion to accommodate for its projected growth and stated mission.

"We're a growing organization," says John Heberlein, deputy executive director and COO of the Endocrine Society. "To complement the Society's excellent staff, we're also [now] in a good area to attract the top talent in the entire metropolitan D.C. area."

Securing the Future

The purchase of the new office space grants the Society with several financial advantages as well as "long-term value" for its members, according to Heberlein. He says that compared to leasing office space, the Society will break even in just 10 years.

"Buying this space locks the costs down," Heberlein says. "We know what our costs will be. We're in an area where rents go up. They don't go down. This won't be like leasing where you turn in the keys at the end of the lease and have nothing to show for it; it's an investment that provides long-term value and equity for our members."

The new facility also provides the Society with a permanent home, which, again, wouldn't have been possible through leasing.

"With this purchase and move," Heberlein says, "we're securing a long-term future."

Taking the LEED

Right from the beginning, the Society identified LEED-CI (Leadership in Energy & Environmental Design-Commer-

cial Interiors) certification as something it wanted to pursue in this relocation. Multiple staff members were very keen to learn more about sustainable construction, and as an organization which encourages others to become more aware of their activities' and products' effect on the environment and human health, the Society was eager to serve as a positive example through the construction of its new facility.

The firm hired to design the Society's new space was OTJ Architects in Washington, D.C., which targeted LEED-CI certification at the beginning of the process. "We started talking about LEED at exactly the right time," says Lida Lewis, director of sustainability at OTJ Architects, "before we even selected a building."

They came up with a target LEED score, which informed the location and buildout of the new facility. Criteria included a dense urban area with access to community amenities and public transportation — factors that are rewarded in the LEED certification process.

Lewis and her team then got to work researching and investigating materials to actively avoid using in the design and construction process. In addition to reviewing the Society's own statement on endocrine disruptors, they gathered and provided to the teams research papers from the World Health Organization, the Silent Spring Institute, and the "relatively new" Pharos website to weed out construction materials that contain materials disruptive to reproductive and other endocrine systems, particularly those with three or more studies supporting their inclusion on the TEDX List of Potential Endocrine Disruptors.

"We're a medical society," Heberlein says, "and we especially recognize the problem of endocrine-disrupting chemicals."

While the science and identification of disruptors such as propiconazole, butyl benzyl phthalate, boric acid, 2,4-dihydrobenzophenone, etc., is still emerging, and content of many building materials is as yet unreported or unknown as to what quantities or application are disruptive to human health, the investigation prompted by the



Society's mission was a definite new field of exploratory research for the entire construction team. Every effort was made, when known and reported, to avoid products with harmful ingredients, and in the case of paints, adhesives, some carpet materials, and others, the research available at the time was able to steer and inform the design team's specifications in new directions. Unfortunately, avoiding endocrine-disrupting chemicals and compounds is not yet rewarded by LEED, Lewis says, as "the science is just too new."

Lewis adds that it's rewarding to "work for people who understand that LEED is important, that it has great impacts on the larger community."

"Being owners, we have the ability to control that," Heberlein says, "to provide a safe and healthy work environment." He adds that obtaining the LEED certification "fits with our mission so perfectly."

Location, Location, Location

The Endocrine Society also partnered with The Ezra Company — a leading commercial real estate firm — and set their sights not only on urban areas with access to public transportation and community amenities, but also spaces that could provide an office environment spread across one contiguous floor.

"Purchasing in D.C. can be a challenge," says Glenn Meltzer, president of The Ezra Co., "as many office spaces for purchase come on 4,000- to 5,000-square-foot floorplates, meaning [the Society] would be spread out over nine floors."

They eventually settled on an eight-story office building originally built in 1963 and renovated in 2010. The building at 2055 L Street NW has a total square footage of 258,000 square feet, and the Endocrine Society is now the proud owner of 34,000 of them, and that means Society staff and visiting members can now work, congregate, and even grow, on one floor. "An organization of [the Society's] size should really be on one floor," Meltzer says.

Other benefits to the staff and members include the myriad community amenities and access to public



The Endocrine Society's new office condominium located at 2055 L Street NW has **LEED-CI** certification. The renderings of the office interiors from OTJ Architects (top, both pages) showcase the new space's contemporary look, vital to both members and staff as they strive to move the Society's mission forward.

transportation, airports, and a variety of hotels, things that weren't readily available at the Society's former location in Chevy Chase, Md. L Street is serviced by two D.C. Metro lines and several major bus lines, allowing staff and visiting members easier and more efficient commutes. The Society has the ability to bring its membership to them, as the new facility is much more accessible to members. In addition, more member meetings will be held in the Society's new conference rooms.

According to Society president Teresa K. Woodruff, PhD, the Endocrine Society is increasing its visibility and value to its members by moving to L Street. "Our proximity to other medical and advocacy organizations will ensure that we are 'seen and heard' in the many important arenas where policy is debated and made," she says. "There has never been a time like the present for the Endocrine Society with our new brand, new CEO, and new space — member value is increasing dramatically, ensuring the Endocrine Society is poised for leadership around the globe."

Society CEO Barbara Byrd Keenan echoes Woodruff's sentiments: "This was a prudent and forward-thinking financial investment to ensure that the organization will be viable in the future," she says. "It allows us to enhance our visibility in the most vibrant association community in the world and demonstrate value with our partners on an ongoing basis." **EN**

— Bagley is the associate editor of Endocrine News. He wrote about the highlights from ENDO2013 in the August 2013 issue and writes the Trends & Insights section each month.

Food for Thought: Adding a Dietitian to Your Practice

Registered dietitians can increase physician productivity and reduce hospitalizations and adverse outcomes.

By Kurt Ullman

Registered dietitians (RDs) are becoming an increasingly important part of many endocrinology practices. Although most often thought of in relation to patients with diabetes, RDs also can impact the treatment of other endocrine diseases where weight gain is a problem.

“A lot of what we do in this specialty is education, counseling, and coordination of care,” says Farha Kahn, MD, FACE, an endocrinologist with Allina Medical Clinic in Coon Rapids, MN. “Most physicians don’t have the time to spend an hour or two with each of our patients to



go through meal plans and do the needed education. I think having an RD becomes a necessity for those practices that have the volume to support them.”

An RD's time is used to help the patient craft a nutrition plan that looks at their personal needs, likes, and dislikes, and educates them to help the patient stay on the plan going forward.

Outcome Impacts

A reason to look at the possibility of bringing dietitians into the practice is that they have been shown to have a major impact on patient-centered outcomes. A study published in 2008 in *Diabetes Care* showed that RD involvement in a comprehensive diabetes education program can be linked to 34% fewer diabetes-related hospitalizations and better hemoglobin A1c control.

“With tight blood glucose control, we have seen definite decreases in the risk for comorbidities such as amputations and heart disease,” notes Kristi L. King, RD, a spokesperson for the Academy of Nutrition and Dietetics. “Having an RD involved helps the patient to find a diet that works in the life of the specific person and not be part of a cookie-cutter diet. The benefit is being able to put together a plan that addresses the needs, likes, and dislikes of a particular patient.”

Adding an RD to the practice requires study and planning. Getting reimbursed for their services can be tricky. The government programs will generally pay for dietitian services for certain diagnoses; the private insurers are much more varied in this area.

Better Care

“I don't think there is any argument that an endocrinology practice is more complete with an RD and the patient gets better care,” says Damon Tanton, MD, medical director at the Florida Hospital Diabetes Institute in Orlando. “But you have to be very diligent in the way that you use them, making sure that the patient they are seeing is one you can actually get paid for.”

He thinks the easiest way to

decide if having an RD is right for your practice is looking at your Medicare census.

“With commercial insurance, there is just too much variation in not only if they will pay for a service, but also how much,” says Tanton. “If I can pay for the RD from Medicare, any money I get from the private payers will be icing on the cake.”

Certified Diabetes Educators

Jaime Lehman, RD, CDE, with Banner Health in Peoria, Ariz., suggests that endocrine practices consider using an RD who is also a certified diabetes educator (CDE). Dietitians with this credential are well versed in all aspects of diabetes management, from nutrition to insulin management. They can serve as a liaison between the patient and the physician while working with the patient to improve clinical incomes. This can free physicians up to see more patients. A skilled RD could actually allow the practice to add new patients and grow relatively cheaply.

Dietitians seeking further income streams and billable hours can apply for program accreditation from the American Diabetes Association (ADA) or American Association of Diabetes Educators (AADE). In addition to initial and annual nutrition counseling, this accreditation gives the practice an opportunity to bill for comprehensive and ongoing diabetes education. Most of these sessions can be done in a group setting (see “Happy Together,” p. 30, October 2013, *Endocrine News*), which increases the efficiency of service delivery for the practice.

The calculus on using RDs may change as healthcare reform continues. As pay for performance, accountable care organizations, and Medical Home concepts go forward, the proven impact RDs can have on hospitalizations, lowering complication rates, and other factors may bring added benefits to the practice.

“If I was advising a colleague, I would say that they are going to get benefits that aren't readily seen in your cost/benefit analysis,” Tanton says. “I think we should also factor in

What is an RD?

A Registered Dietitian is a specialist who provides nutrition education and counseling to a patient and their family. It is often based on a disease such as diabetes.

They assess a patient's dietary habits, foods they like or dislike, any foods that may be contraindicated by their treatment regimen, and any concerns about religious or other restrictions. They then work with the patient to develop an individualized plan for nutritional support.

RDs will educate patients/clients about the relationship between nutrients, food, and disease, while helping them change unhealthy eating habits.

RDs are required to have at least a Bachelor of Science degree in nutrition, dietetics, or similar disciplines. After completing an internship of 900 hours, they may sit for a national registration examination. Licensure by a state governmental agency is required in 33 jurisdictions throughout the U.S. It is illegal for a person to use the RD title unless they pass the registration exam.

some of these other things when looking at an RD's worth to the practice. You know these models aren't going to go away and will have an effect on you for many years.”

Adding RDs

RDs will become a bigger part of endocrine practices going forward. Bigger practices will be looking at adding them as staff. Smaller or solo practices may have to be more creative. Partnerships with other groups where they “share” a person is one option. In other cases, “borrowing” a dietitian from the hospital may be an avenue to these services.

The experts agree that endocrinology isn't like some other specialties where the patient is given a shot or has something taken out and sent on his or her way. It is much more focused on counseling and teaching, especially when working with diabetes patients.

“Most physicians just don't have the time to spend an hour or two with each patient helping them figure out how many calories they should be burning and how they should do it,” Khan says. “RDs and CDEs help us get back to nutrition counseling, which really is the underpinning of medicine in our specialty.” **EN**

— Kurt Ullman, RN, MHA, is an Indiana-based freelance writer with nearly 30 years of experience. He wrote about the Physician Quality Reporting Initiative in the November 2013 issue.

TAKING STOCK

Tracking your lab's chemicals is a vital basic step to ensuring everyone's safety.

By Melissa Mapes

A lot can go wrong very quickly in a laboratory that lacks a system for managing chemicals. Expired solutions, mislabeled solvents, environmental damage, reactive chemicals placed side-by-side — these careless missteps can ruin hours of research, if not level a lab. Fortunately, methods exist to prevent catastrophe and streamline the process of tracking materials. Any physician or researcher can operate a world-class facility by following a few crucial steps.

What NOT to Do

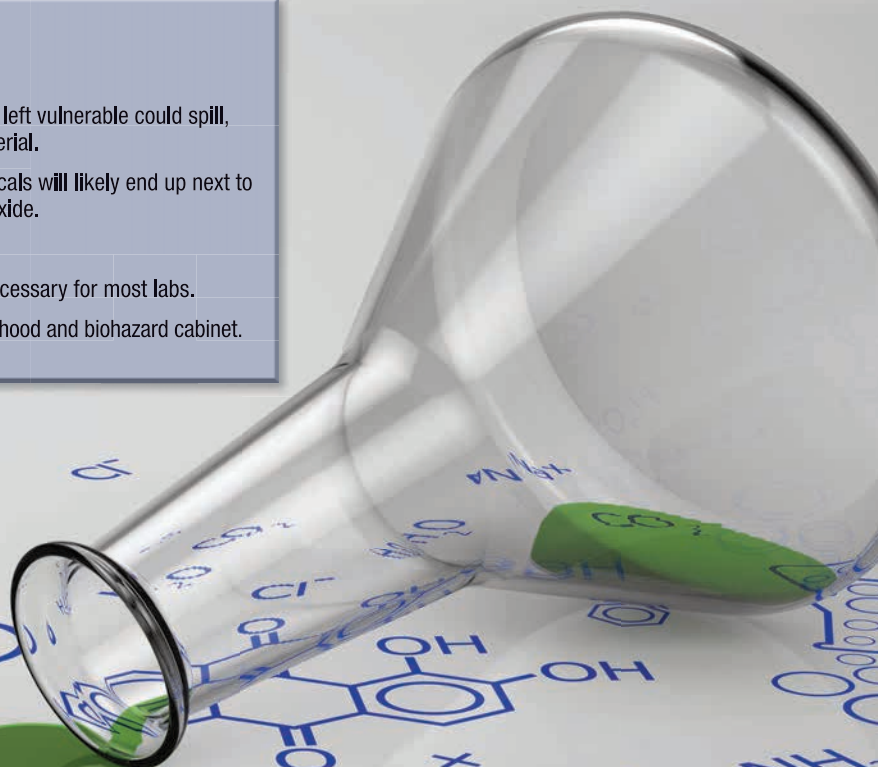
Cautionary tales abound when it comes to lab chemicals. The biggest mistake, according to April Barts, MT, executive director of Clinical Laboratory Consulting and former director of a major endocrinology lab, is an open container. No matter the chemical inside, a substance left vulnerable could spill, oxidize, or inadvertently mix with organic material. She has seen labs make this error many times, and often they suffer the consequences.

If the staff is not educated on how to handle a spill, these effects are compounded. Barts has encountered labs without hazardous spill kits, goggles, or eye wash stations, which are all crucial to a clean-up. She recommends monthly safety inspections and regular staff updates on the Occupational Safety and Health Act (OSHA) to avert such disasters.

Richard Flaherty, executive vice president at the American Association for Clinical Chemistry (AACC), told *Lab Manager* magazine that the

HIGHLIGHTS:

- No matter the chemical inside, any substance left vulnerable could spill, oxidize, or inadvertently mix with organic material.
- Do not alphabetize chemicals. Reagent chemicals will likely end up next to each other, such as acetone and benzoyl peroxide.
- Meticulous labels and logs are a must.
- Expensive inventory tracking software is unnecessary for most labs.
- Aside from a tracking system, invest in a fume hood and biohazard cabinet.



second major no-no is alphabetizing. Reagent chemicals will likely end up next to each other, like acetone and benzoyl peroxide. Materials should instead be grouped together by family and application.

“Usually the worst is cleaning materials with acetic or hydrochloric acid (HCL) for maintenance,” Barts explains. “Larger laboratories may have more volatile chemicals, but that usually also includes a safety officer overseeing the storage and processing.”

Proper labeling is key to ensuring safe storage, as is the disposal of expired chemicals. Chemical notations are against regulation as labels because they are more easily confused than full names. It can be tempting to save time with “HCL,” or money by using expired chemicals, but the end costs will far exceed the short-lived benefits.

The Elements of Chemical Tracking

Three basic steps comprise the process of chemical tracking: inventory, use, and post-use. Inventory involves obtaining and storing chemicals. Flaherty believes that this step centers on expiration dates, which should be recorded upon arrival. He also recommends buying in small quantities rather than bulk to avoid the dangers of old chemicals. For example, diethyl ether, a peroxide former, can become unstable and even explosive if its short shelf life is overlooked.

The “use” stage is straightforward — the instructions for each chemical should be followed and containers should be immediately closed and placed back in their designated station. Read the material safety data sheet (MSDS) that comes along with each item. “Do not just place it in a book,” Barts warns.

“Post-use,” on the other hand, is far more complex. This step describes waste removal, which requires “close management, well-established safe management protocols, effective communication, and frequent inspections,” according to Flaherty.

Meticulous labels and logs are a must. Chemicals may receive acci-

dental contamination and form new compounds, which necessitates proper testing prior to disposal and the possibility of new labeling. This holds especially true for mysterious “forgotten” chemicals that might be found in the back corner of a closet or other location. Without identifying these unknown substances, an accidental toxic mix may occur. Regular inspections of the premises can preempt the misplacement and neglect of materials.

Lab Management Must-Haves

The only sure-fire way to track chemicals is a digital database. Many options exist, but Barts advises lab managers to choose simple yet comprehensive software. “You can buy tons of programs out there, but the easiest tracking program is educating the staff and finding a system that everyone understands. It is more important to make the staff understand the complexities of the chemicals and logging the inventory, lot number, expiration date, open date, and open expiration date,” she says.

Expensive inventory tracking software is unnecessary for most labs. One free program exists that offers a perfectly good platform for managing chemicals. The online system Quartzzy was designed by two scientists who met in a research lab at Columbia University and has a simple interface that fits the needs of most laboratories. It includes Microsoft Excel downloads and streamlines order requests to avoid duplicates. Quartzzy is used widely across many U.S. universities and is available free of charge by selling advertising space across the program. No download is required.

If you cannot stand ads, you might want to consider a paid subscription to a different program. Lab Inventory also contains a simple interface, but requires a computer download rather than online-only use. Users can upload existing Excel inventory sheets for an easy conversion. The program was developed by ATGC Labs and offers a free 60-day trial, but otherwise requires payment. The investment may be worth-

Software for TRACKING INVENTORY



- **Quartzzy**
<http://www.quartzzy.com/>
A free, simple inventory system hosted online



- **Lab Inventory**
<http://www.atgclabs.com/products/li>
A detailed tracker with a barcode scanning program



- **Lab Guru**
<http://www.labguru.com/>
Software that will eliminate duplicate orders and reduce waste

while for those seeking a somewhat more sophisticated system that provides a barcode scanning system rather than manual entry, details about usage patterns, and forecasts of future chemical demands.

For labs looking to reduce chemical costs, Lab Guru offers a platform focused on avoiding mistakes with orders and reducing waste. The program generates a “Shopping List” to make sure that the correct amounts of required chemicals are ordered in a timely manner. Lab Guru starts at \$10 per month, but has a 30-day free trial.

Aside from a tracking system, Barts recommends that any lab with volatile or dangerous chemicals invest in a fume hood and biohazard cabinet. The one-time expense of these tools is well worth the return in safety. Combined with frequent expiration checks and the sealing of containers, the chemical management of any lab should remain emergency-free. **EN**

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

Society Emphasizes Endocrine Perspective for NIH Strategic LGBTI Research Activities

By Joseph M. Laakso, PhD

The membership of the Endocrine Society includes clinicians and researchers dedicated to improving the health of transgender individuals and persons with disorders of sexual development (DSD).

Recognizing this important expertise provided by our members, the Society is working to ensure endocrinology informs critical public health issues for transgender/DSD populations. The National Institutes of Health (NIH) is developing new initiatives to address health needs for Lesbian, Gay, Bisexual, Transgender and Intersex (LGBTI) populations in response to a 2011 report by the Institute of Medicine (IOM) that assessed the state of the science and current knowledge surrounding health issues for LGBTI populations. The report, commissioned by the NIH, outlined a research agenda to “help the NIH focus its research in this area.” As a response to the IOM report, the NIH released a detailed analysis in January 2013 of the current research portfolio as it relates to the IOM recommendations. In order to address the array of health and research needs identified in the IOM and NIH reports, the NIH has begun a process to develop a new LGBTI Research Strategic Plan.

The Endocrine Society’s membership offers vital expertise to help the NIH address unmet needs through the LGBTI research plan, particularly for transgender individuals and individuals with intersex conditions or DSD. Therefore, when the NIH released a Request for Information (RFI) to help advance

the LGBTI Research Strategic Plan, the Society gathered a panel of subject matter experts to develop an impactful response. In its response, the Society identified a number of critical knowledge gaps and barriers to research and care. The Society further noted specific clinical and basic research areas that require coordinated efforts and funding. Finally, the Society made a number of recommendations for the NIH to consider as it implements the Strategic Plan. Critically, the Society emphasized that patient outcomes should be the focus of research for transgender and DSD conditions.

Recognizing the integral role of endocrinology in these initiatives, the NIH continues to engage with the Endocrine Society to further inform the LGBTI Research Strategic Plan and component activities. In January 2014, the NIH invited the Society’s participation in a public listening session on transgender health during which the NIH sought input from critical stakeholders.

Dr. Joshua Safer delivered comments on behalf of the Society, emphasizing basic research priorities and infrastructure requirements to meet clinical research needs that will improve the health of transgender patients. At the same time, the Eunice Kennedy Shriver National Institute of Childhood and Human Development (NICHD) invited the Endocrine Society to submit additional comments to inform a workshop on “the impacts of disorders of sex development on child development, from infancy through adolescence, for affected individuals

and their families.” Society staff met with NICHD policy staff, including a member of the LGBTI Research Coordinating Committee, to explore additional ways to help the NICHD as it develops the workshop and other activities to support DSD research.

The Endocrine Society recognizes that the current state of care for transgender and intersex/DSD patients is extremely fragmented, with significant regional and international disparities in quality and access to care. The Society enthusiastically supports the activities of the NIH LGBTI Research Coordinating Committee and NICHD in their efforts to advance LGBTI health. Society staff will continue to work closely with the NIH as the Research Coordinating Committee develops the LGBTI Research Strategic Plan and implements activities to address the unmet health needs for these populations.

Ongoing activities to integrate endocrinology into the LGBTI Research Strategic Plan are examples of how the Endocrine Society works with the NIH to ensure that endocrinology is appropriately considered as the NIH develops strategic plans. Society members are encouraged to become active participants in these collaborative efforts with the NIH.

To learn more about the Society’s NIH outreach efforts or to suggest focus areas for consideration, contact the Society’s Government and Public Affairs Department at govt-prof@endocrine.org. **EN**

— Laakso is the manager of Science Policy at the Endocrine Society.

If you are interested in submitting classified advertising to *Endocrine News*, please contact Christine Whorton at endocareers@endocrine.org or 800-361-3906.

Endocrinologist Opportunities

Geisinger Health System (GHS) is seeking Endocrinologists for three locations:

- **Geisinger Medical Center (GMC), Danville, Pa.**
- **Geisinger Wyoming Valley Medical Center (GWV), Wilkes-Barre, Pa.**
- **Geisinger-Patton Forrest, State College, Pa.**

About the Position at GMC

- Join a team of 4 Endocrinologists, 1 Nurse Practitioners and 2 Certified Diabetes Educators in 100% Subspecialty Endocrinology Clinical Practice.
- Work collaboratively with Geisinger's community practice network to enhance diabetes care, as well as to work with multiple subspecialties to enhance inpatient care.
- Opportunities for clinical practice include serving as investigator on diabetes clinical trials, US-guided Thyroid Fine Needle Aspiration Biopsies and Continuous Glucose Sensors interpretation
- Engage in clinical mentoring and educational programs for medical students on the GMC campus, as well as internal medicine residents on rotation at GMC

About the Position at GWV

- Join a team of 3 Endocrinologists, 2 Nurse Practitioners and 3 Certified Diabetes Educators, and is positioned for additional growth
- Work collaboratively with Geisinger's community practice network to enhance diabetes care, as well as to work with multiple subspecialties to enhance inpatient care
- Opportunities for clinical practice include serving as investigator on diabetes clinical trials, US-guided Thyroid Fine Needle Aspiration Biopsies, Continuous Glucose Sensors and Bone Density interpretation
- Engage in clinical mentoring and educational programs for medical students and family medicine residents on the GWV campus, as well as internal medicine residents on rotation at GWV

About the Position at Geisinger-Patton Forrest

- Join a growing endocrinology department in a thriving, multi-specialty group practice, located in a progressive university town
- Provide 100% endocrinology subspecialty outpatient care and inpatient consultations
- Provide consultative care at Mt. Nittany Medical Center, State College, Pa., and Lewistown Hospital, Lewistown, Pa.

Geisinger Health System serves nearly 3 million people in Northeastern and Central Pennsylvania and has been nationally recognized for innovative practices and quality care. A mature electronic health record connects a comprehensive network of 5 hospitals, 43 community practice sites and more than 900 Geisinger primary and specialty care physicians.

Discover for yourself why Geisinger has been nationally recognized as a visionary model of integrated healthcare. For more information, please visit Join-Geisinger.org or contact: John W. Kennedy, MD, Endocrinology Department Director, Geisinger Health System c/o Kathy Kardisco, Department of Professional Staffing, at 1-800-845-7112 or kkardisco@geisinger.edu.

GEISINGER HEALTH SYSTEM

Follow us:  | 

Geisinger is a drug-screening employer; EOE/M/F/D/V

Society Recommends **UNIVERSAL DIABETES TESTING AT FIRST PRENATAL VISIT**

The Society was encouraged by the recommendation from the U.S. Preventative Services Task Force (USPSTF) when it released its recommendations in January calling for expectant mothers to be tested for gestational diabetes after 24 weeks of gestation. While the Society applauds the USPSTF, it recommends going a step further to identify undiagnosed type 2 diabetes cases before harmful pregnancy complications can develop.

The Society agrees that pregnant women who have not previously been diagnosed with overt or gestational diabetes should be tested at this stage of pregnancy. However, the Society also recommends universal diabetes testing for women at the first prenatal visit in its *Diabetes and Pregnancy Clinical Practice Guideline* published in the November 2013 issue of the Society's *Journal of Clinical Endocrinology and Metabolism*. The test should be done before 13 weeks' gestation or as soon

as possible thereafter.

"Given that many cases of type 2 diabetes are undiagnosed, it's important to ascertain early in pregnancy whether women have this condition," says Ian Blumer, MD, of the Charles H. Best Diabetes Centre in Whitby, Ontario, Canada, and chair of the task force that authored the guideline. "Untreated diabetes poses serious risks to the mother and the fetus, so it is important to reduce the chance of complications through early diagnosis and treatment."

As many as one in five women may develop gestational diabetes — a form of diabetes that has its onset during pregnancy. However, traditional testing strategies only identify about 25% of the cases. Women who go undiagnosed are at an increased risk of having an overly large baby, which can complicate delivery.

When pregnant women are screened for gestational diabetes at 24 to 28 weeks gestation, the Society recommends using a one-step testing approach in line with the consensus panel of the International Association of the Diabetes and

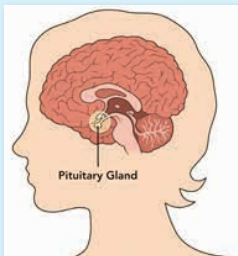
Pregnancy Study Groups' protocol. This involves pregnant women taking a 75-g oral glucose tolerance test, which is more sensitive and can help physicians diagnose more cases. This differs from the 50-g oral glucose challenge test, which is commonly used in the U.S. As the USPSTF noted in its statement, many pregnant women receive this test and are only given the oral glucose tolerance test if the first test yields abnormal results.

"The Society's task force felt the overriding concern of pregnant women was to avoid complications that can harm the fetus," Blumer says. "Using the more sensitive, one-step test supports the goal of early diagnosis and treatment."

Other members of the Society task force that developed the *Diabetes and Pregnancy Clinical Practice Guideline* include: Eran Hadar of Helen Schneider Hospital for Women in Petach Tikva, Israel; David R. Hadden of Royal Victoria Hospital in Belfast, Northern Ireland; Lois J. Jovanovic of Sansum Diabetes Research Institute in Santa Barbara, Calif.; Jorge H. Mestman of the University of Southern California in Los Angeles; M. Hassan Murad of the Mayo Clinic in Rochester, Minn.; and Yariv Yogeve of Helen Schneider Hospital for Women. **EN**



New from the Network — HYPOPITUITARISM



Visit www.hormone.org to download the Network's latest fact sheet, Hypopituitarism, and help your patients learn more about this rare but treatable condition. The fact sheet defines hypopituitarism, lists its causes and symptoms, and describes the functions of various pituitary

hormones. Patients are counseled that, while they may need life-long medication to replace the hormones they're missing, they can still live long, healthy lives. Brief definitions and a list of suggested questions help patients have more informed conversations with their doctors.

Event CALENDAR

MARCH 3–5, 2014, ORLANDO, FLA.

2014 Scientific Symposium: Metabolic Origins of Disease Symposium
www.sanfordburnham.org/research/diabetes/2014symposium/Pages/home.aspx

MARCH 12–15, 2014, PASADENA, CALIF.

2014 Rachmiel Levine Diabetes and Obesity Symposium:
Advances in Diabetes Research
www.cityofhope.org/rachmiel-levine-symposium

MARCH 13–16, 2014, PANAMA CITY, PANAMA

3rd Latin America Congress on Controversies to Consensus in Diabetes, Obesity and Hypertension (CODHy)
www.codhy.com/la/2014/

APRIL 10–12, 2014, ORLANDO, FLA.

American College of Physicians, Internal Medicine 2014
<http://im2014.acponline.org/>

APRIL 26–30, 2014, SAN DIEGO, CALIF.

Experimental Biology 2014
<http://experimentalbiology.org/2014/Home.aspx>

ABIM NEW MOC Requirements

The American Board of Internal Medicine's (ABIM) revised requirements for Maintenance of Certification (MOC) went into effect at the beginning of this year, bringing to fruition the new "continuous" MOC model that began transition in 2010.

The American Board of Medical Specialties (ABMS) — of which ABIM is a member — and ABIM believe that a more continuous MOC program helps physicians keep pace with the changes in the science of medicine and assessment. Beginning in January, ABIM is requiring more frequent participation in MOC and will be publicly reporting whether board certified physicians are "Meeting MOC Requirements," regardless of initial certification date.

In order to continue to be reported as "Meeting MOC Requirements," all ABIM Board Certified physicians wishing to maintain their certification need to complete an MOC activity by Dec. 31, 2015 and every two years thereafter. By Dec. 31, 2018 and every five years thereafter, to

continue to be reported as "Meeting MOC Requirements," all physicians will need to have earned 100 MOC points with at least 20 points in medical knowledge and 20 points in practice assessment. In addition, by Dec. 31, 2018 and every five years thereafter, physicians will need to fulfill a patient safety and a patient survey requirement. Every 10 years, physicians will also need to pass a secure exam in each certification area they choose to maintain. The points earned every two years will count toward the five-year requirement and also count toward the milestones for the certifications being maintained.

Physicians initially certified before 1990, the so-called "grandfathers" and "grandmothers," are not required to participate in MOC to maintain certification, but in order to be publicly reported as "Meeting MOC Requirements," they will need to enroll and engage in MOC. This includes participating in the requirements outlined above and taking a MOC exam by Dec. 31, 2023 and every 10 years thereafter.

"The Endocrine Society is committed to meeting the educational needs of its members ... while helping them maintain their professional identity as diplomates of the ABIM," says Graham McMahan, MD, Endocrine Society member and Clinical Endocrine Education Committee chair. "We've developed educational products for endocrinologists by endocrinologists to meet these needs; they are designed specifically to make the process as efficient, as effective, and as rewarding as possible," he says.

Visit MOC2014.abim.org for more information about the new MOC program requirements. Contact the Endocrine Society at societyservices@endocrine.org and visit <https://www.endocrine.org/education-and-practice-management/moc> for help and information on available Medical Knowledge and Practice Assessment activities. **EN**

Physicians whose licenses are in good standing with current certifications will continue to be certified for the length of that certification. **In order to meet the new MOC requirements, physicians will need to:**

1. Enroll in MOC by March 31, 2014.
2. Complete an MOC activity by Dec. 31, 2015.
3. Earn 100 MOC points and complete a patient survey and patient safety activity by Dec. 31, 2018.
4. Take a certifying exam 10 years from the last exam, or by Dec. 31, 2023 if certified before 1990.



THE ENDOCRINE SOCIETY'S 96th ANNUAL MEETING & EXPO

A WORLD OF OPPORTUNITY Awaits You at **ICE/ENDO 2014**

ENDO has always been an event with global significance — but the 2014 meeting promises to raise the bar to a new level.

For the first time in nearly 20 years, the Endocrine Society and the International Society of Endocrinology (ISE) are joining forces to host **ICE/ENDO 2014**, an extraordinary summit on hormone research and clinical practice.

Over 10,000 attendees are expected to arrive in Chicago in June — making it the world's largest gathering of endocrinologists ever. This is truly a can't miss event for anyone in the field — and a rare opportunity to interact with, collaborate with, and showcase your work to the widest audience of colleagues possible.

Making History — and Science and Geography, Too

All the best of **ENDO** — its bounty of abstracts, workshops, symposia, meet-the-professor, and master clinician sessions — are amplified with this collaboration. The inherent international nature of **ENDO** is augmented with an even broader array of speakers, topics, and global perspectives.

Founded in 1960, ISE represents a strategic network of 70 international endocrine societies that stimulates borderless cooperation, coordinates scientific discourse, and provides strategic support to member societies in developing nations. Each of the ISE regions — the Americas, Europe, Africa, Asia, and Oceania — will be represented at **ICE/ENDO 2014**.

The flagship of ISE remains its International Congress on Endocrinology (ICE), which is held every two years with one of its member societies around the world. Since the first ICE in 1960, Denmark, Mexico, Germany, Australia, Japan, Portugal, and the U.S. have all hosted the Congress.

ICE facilitates global perspectives on the clinical issues that endocrinologists deal with every day — such as management of gestational diabetes, metabolic bone disease, and the evaluation of thyroid nodules — as well as the diagnosis and treatment of rare disorders such as acromegaly, Cushing syndrome, and disorders of sexual development.

ICE in the Americas

The last joint meeting of ICE and **ENDO** on U.S. soil took place in 1996 in San Francisco. It was the 10th anniversary of the prestigious gathering and the second time ICE had come to the U.S. Now this truly global event returns to the U.S. at McCormick Place West in Chicago — home of the Willis (née Sears) Tower, second-tallest building in the U.S., Wrigley Field, and thriving arts and culinary communities.

“We’re excited to bring ICE to the Americas,” says Paul M. Stewart, secretary treasurer of ISE. “The Endocrine Society delivers an outstanding cutting-edge conference, and the partnership with ISE will provide the global endocrine community with the biggest and hopefully the best ICE ever!” **EN**

What:

The joint meeting of the 16th International Society of Endocrinology (ISE) and the Endocrine Society's 96th Annual Meeting & EXPO

When:

June 21- 24, 2014

Where:

McCormick Place West,
Chicago, Illinois

REGISTRATION IS NOW OPEN

Ensure your place in endocrinology history. Register now for **ICE/ENDO 2014**. Visit www.ice-endo2014.org for more information.



Diabetes Insipidus

WHAT IS DIABETES INSIPIDUS (DI)?

Diabetes insipidus, also called DI, is a rare condition that leads to frequent urination (passing a lot of clear urine) and excessive thirst. The condition may be caused by problems with your pituitary gland and/or your kidneys.

DID YOU KNOW?

DI is not related to diabetes mellitus (type 1 and type 2 diabetes), which is when your levels of blood sugar (glucose) are too high.

DEFINITIONS

Antidiuretic hormone (ADH): A hormone that helps the kidneys work well and keeps blood levels of sodium (salt) and water in the normal range. ADH is also called vasopressin.

Hypothalamus: An area of the brain that makes ADH.

Pituitary gland: A tiny gland found at the base of the brain; it stores and releases ADH and other hormones into the bloodstream.

TYPES OF DI, THEIR CAUSES, AND TREATMENTS

There are four types of DI. The goal of treatment for all types of DI is to relieve thirst and to decrease the amount of urine being made. The specific treatment depends on the type.

Type	Cause	Treatment
Central DI (the most common type)	Damage to your pituitary gland or hypothalamus from head injury, surgery, or tumors. This can lead to a lack of ADH.	<ul style="list-style-type: none"> • Synthetic ADH: desmopressin, given by injection, nasal spray, or pill • In mild cases, treatment is increased water intake
Nephrogenic DI	The pituitary releases enough ADH into the body but your kidneys can't respond to it. This can result from the prescription drug lithium, sickle cell disease, or genetic problems.	<ul style="list-style-type: none"> • Anti-inflammatory medicine (indomethacin) • Medications such as water pills (HCTZ and amiloride) • Low-sodium diet (if needed) • Fluids as needed

Type	Cause	Treatment
Dipsogenic DI	Excess fluid intake, caused by <ul style="list-style-type: none"> a problem with your thirst mechanism, or deliberately drinking too many fluids (may occur with mental illness) This can lead to low blood sodium and possible brain damage.	No known treatment yet except for restricting fluid intake
Pregnancy-related DI	A substance made by the placenta that prevents the mother's ADH from working.	Desmopressin (nasal spray or pill)

You also might have an imaging test of your head (an MRI) to check for problems with your pituitary gland. Your doctor also may order genetic tests.

WHAT ARE THE COMPLICATIONS OF DI?

Taking too much desmopressin and/or drinking lots of fluids may cause low sodium levels in the blood, which can lead to headache, nausea, confusion, seizures or, in rare cases, death. Other complications are dehydration, low blood pressure, and high sodium levels in the blood.

WHAT IS THE LONG-TERM OUTLOOK FOR PEOPLE WITH DI?

Long-term outlook depends on the type of DI. Usually, adults don't have serious problems unless they do not have access to water or other fluids.

HOW DOES YOUR BODY REGULATE FLUID?

The amount of fluid in your body is a balance between how much liquid you drink and how much urine you make. Your kidneys and bladder are part of the system.

Your kidneys remove extra fluid from your blood. If there's extra fluid in your system, your kidneys send it to your bladder. Your bladder stores and then excretes extra fluid as urine. If you take in less water, the kidneys make less urine and send water back into your blood. ADH is released if you get dehydrated and the sodium level in the blood rises, which helps your kidneys retain water.

WHAT ARE THE SYMPTOMS OF DI?

Symptoms include

- Being very thirsty
- Urinating a lot
- Wetting the bed at night

Children might be listless and feverish. They also might vomit and/or have diarrhea. They may have delayed growth.

HOW IS DI DIAGNOSED?

Your doctor has several ways to check for DI and to find the cause:

- Analysis of urine samples
- Blood tests to see how your pituitary gland is working
- A fluid deprivation test, which shows how well the kidneys are working. The test monitors the amount of urine made over the course of several hours without drinking fluids.

Questions to ask your doctor

- What is causing my DI?
- What are my options for treatment?
- What are the risks and benefits of the each treatment option?
- How long will I need treatment?
- How often will I need check-ups and blood tests?
- How much water or other fluids should I drink every day?

RESOURCES

- Find-an-Endocrinologist: www.hormone.org or call 1-800-HORMONE (1-800-467-6663)
- Hormone Health Network information about pituitary gland disorders: www.hormone.org/Pituitary/overview.cfm
- National Institutes of Health information about DI:
 - kidney.niddk.nih.gov/kudiseases/pubs/insipidus/
 - www.nlm.nih.gov/medlineplus/diabetesinsipidus.html
- Mayo Clinic information about DI: www.mayoclinic.com/health/diabetes-insipidus/DS00799
- American Academy of Family Physicians information about DI: familydoctor.org/familydoctor/en/diseases-conditions/diabetes-insipidus.html

EDITORS

Anne Klibanski, MD
Janet Schlechte, MD
Nicholas Tritos, MD

The Hormone Health Network offers free, online resources based on the most advanced clinical and scientific knowledge from The Endocrine Society (www.endo-society.org). The Network's goal is to move patients from educated to engaged, from informed to active partners in their health care. This fact sheet is also available in Spanish at www.hormone.org/Spanish.



FOR THE BEST RATES,
REGISTER TODAY!

16th INTERNATIONAL CONGRESS OF ENDOCRINOLOGY

ICE



CHICAGO

JUNE 21-24

ENDO 2014

THE ENDOCRINE SOCIETY'S 96th ANNUAL MEETING & EXPO

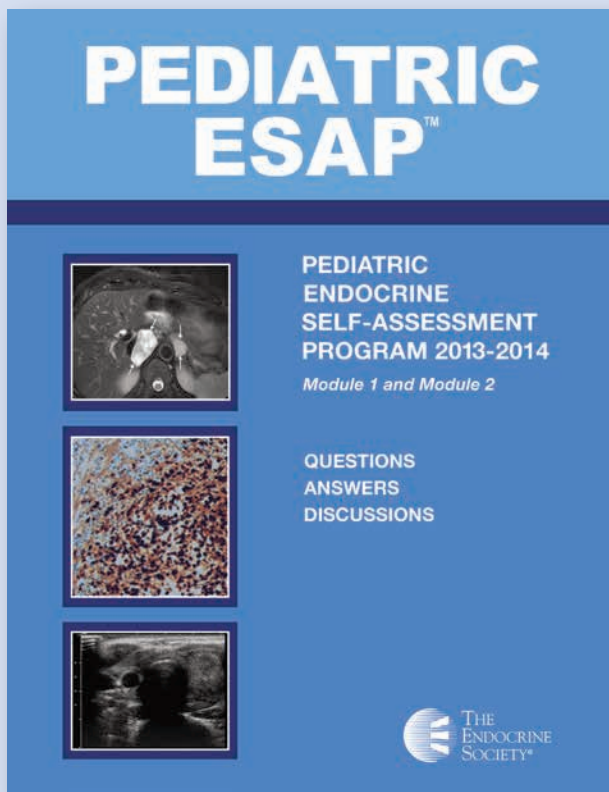
McCORMICK PLACE • CHICAGO, ILLINOIS

WWW.ICE-ENDO2014.ORG

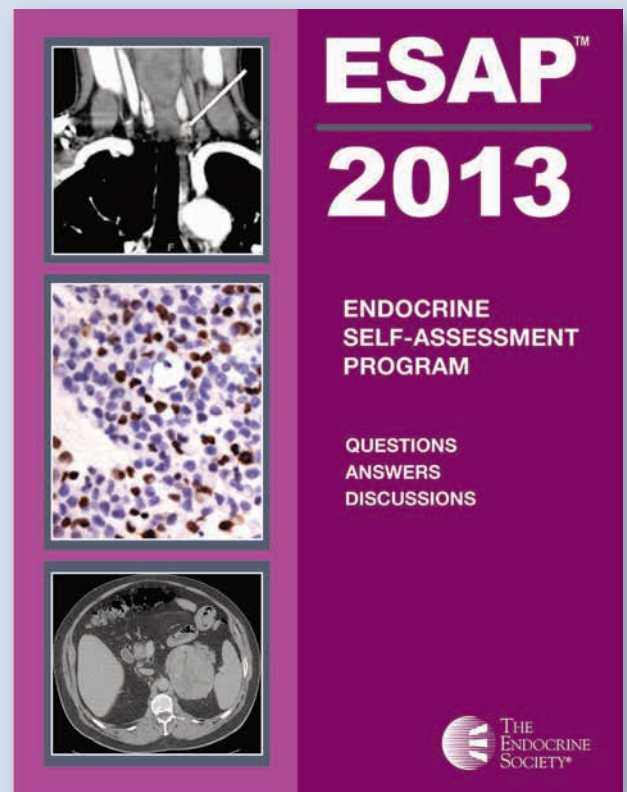


Stay Current with New Endocrine Self-Assessment Tools

Whether you're looking for the latest information from the experts or in need of MOC points, *ESAP™ 2013* and *Pediatric ESAP 2013-2014* are the smart choices to improve your clinical knowledge.



- Two online modules available, each featuring 50 questions covering all areas of the ABP exam blueprint
- Discounted bundle price for purchasing two online modules and receive printed book at no additional cost
- More value for your money – Complete both modules and earn up to 32 *AMA PRA Category 1 Credits™* and 40 MOC Part 2 points



- Great value: Receive the book and online module for one price
- 160 interactive case-based questions make it the ideal tool for certification or recertification prep
- Earn up to 50 *AMA PRA Category Credits™*

For more information or to order, visit endoselfassessment.org



You'll notice something different at the Endocrine Society store online

At 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 merchandise there.

eBooks now available
Place your order today at endocrine.org/store.



THE ENDOCRINE SOCIETY'S 96th ANNUAL MEETING & EXPO

JOIN THE **SOCIETY** AND **SAVE** UP TO \$740 OFF THE NONMEMBER REGISTRATION FOR ICE/ENDO 2014.

- Discover the latest advances in endocrinology
- Present your research to a global audience
- Gain valuable practice management information
- Network with thousands of your colleagues

**JOIN BEFORE YOU REGISTER
TO SAVE UP TO \$740 OFF
THE NONMEMBER RATE!**

WWW.ENDOCRINE.ORG/SAVE740

