

NOVEMBER 2015

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

Endocrine news

Parallel Protocols:

TREATING DIABETES AND HIV/AIDS

As HIV-positive patients live longer, their risk for developing diabetes has increased along with their lifespans. Treating both conditions concurrently is challenging, but as with any other patient, lifestyle modification is a crucial component.

THE GREAT DEBATE:

Menopausal hormone replacement therapy

FATAL ERRORS:

Reducing medical mistakes through technology upgrades and policy changes

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Hormone Science to Health



The Society Takes the Lead to Advocate for Diabetes Prevention and Treatment


NOVEMBER IS WORLD DIABETES MONTH — A critical opportunity to highlight the more than 380 million individuals who suffer from diabetes globally. In the U.S., the incidence of the disease continues to rise and is the seventh leading cause of death. While the Endocrine Society will be participating in a number of activities this month to promote the global awareness campaign, it is also an important time to underscore the work that we do throughout the year on behalf of people with diabetes and our Society's members who care for them.

We have made significant strides in advocating for prevention and treatment coverage for diabetes and its comorbidities. The Society has advocated for coverage of continuous glucose monitoring (CGM) devices for several years and has met with key policy makers at the White House, the Centers for Medicare and Medicaid Services, and the Department of Health and Human Services to discuss ways to expand coverage for this technology. The Society has also worked with other diabetes stakeholders to advocate for passage of the Medicare CGM Access Act of 2015, which would provide coverage for Medicare patients.

In addition, we have advocated for coverage of programs to prevent the progression of prediabetes. In the U.S., it is projected that one in three adults have prediabetes, and nine out of ten do not know that they have this risk factor. The Endocrine Society has been a leading advocate for the funding of the National Diabetes Prevention Program (NDPP), a program that utilizes lifestyle interventions to prevent or delay the onset of diabetes among individuals with prediabetes. The NDPP has demonstrated that moderate weight loss can prevent or delay the onset of diabetes by 58% and by 71% in the Medicare population. The Society has supported increased funding for the program on Capitol Hill and with U.S. Surgeon General Vivek Murthy. At last year's Clinician Hill Day, Society members urged Congress to appropriate \$20 million for the NDPP and to expand coverage of the program to the Medicare population by supporting the Medicare Diabetes Prevention Act.

Following a summit held last year to discuss the diabetes landscape and what policy makers can do to make a difference, we held a roundtable on hypoglycemia. The roundtable featured key officials from professional societies, quality improvement organizations, and the federal government, including The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), Centers for Disease Control and Prevention (CDC), and the Veteran's Health Administration, as well as patient advocates. At the meeting, participants shared perspectives on hypoglycemia as they relate to the patient experience, research and surveillance, issues in the clinical setting, and quality improvement. We have formed a steering committee comprised of the participating organizations to continue to work on areas of collaboration and look forward to informing you of results from these discussions.

To build momentum on advancing these initiatives, the Society and the Congressional Diabetes Caucus co-chairs hosted a briefing on Capitol Hill on November 4, highlighting legislative priorities in diabetes. The briefing featured Edward Damiano, PhD, who will discuss his work with the artificial pancreas and the need to ensure appropriate pathways for research, funding, and coverage of advanced diabetes devices. Linda Siminerio, RN, PhD, chair of the National Diabetes Education Program, a joint initiative of the National Institutes of Health and the CDC and Prevention, spoke about the incidence of diabetes and the need for diabetes self-management education. Nicole Johnson, a former Miss America and diabetes advocate, discussed the need for coverage of the NDPP and to provide a patient perspective. Society leaders attended the briefing and met with Congressional offices to advocate in support for the Medicare CGM Access Act of 2014 and the Medicare Diabetes Prevention Act.

As we move forward in addressing the growing epidemic of diabetes worldwide, it is important that your voice is heard. To learn more about our efforts and ways that you can get involved, visit endocrine.org/advocacy. 

Lisa H. Fish, MD
President, Endocrine Society



FROM THE **EDITOR**

A Double-Edged Sword

WHEN AN INTERNATIONALLY KNOWN, OFTEN-PUBLISHED, WELL-respected physician makes the comment that he would rather have HIV than diabetes, controversy is sure to follow. But that's exactly what Max Pemberton said in his column — entitled, "As a doctor I would rather have HIV than diabetes" — published in the UK magazine *The Spectator* in 2014.

Pemberton admitted that his statement might sound shocking or surprising, but he said that the facts speak for themselves: "the prognosis for those with type 2 diabetes is much worse than for those with HIV," he wrote. "The risk of stroke in newly treated type 2 diabetes is more than double that of the general population. People with diabetes are four times more likely to have cardiovascular disease than someone without diabetes. In 20 to 30% of people with diabetes, there's damage to the kidney filtering system leading to kidney failure and the need for dialysis. Damage to the delicate vessels in the eye is a leading cause of blindness and damage to nerves is a leading cause of foot wounds and ulcers, which frequently lead to foot and leg amputations. For those with HIV, providing they take their medication, there are very few problems."

Putting the discussion aside, this brought up an interesting conundrum: Instead of an "either/or" situation where a physician was charged with treating either HIV/AIDS or diabetes, we wondered what the challenges would be in treating a patient with both. In this month's cover story, "Parallel Protocols" (p. 8), *Endocrine News* associate editor Derek Bagley writes about the challenges doctors face in treating patients with both conditions. As the article states, part of the dilemma is the fact that people with HIV and AIDS are now living longer due to a number of pharmacological developments. In turn, reaching an advanced age is often when chronic conditions such as type 2 diabetes develop.

It's a double-edge sword to be sure, but Kevin Yarasheski, PhD, a professor of medicine, cell biology and physiology, and physical therapy in the Division of Endocrinology, Metabolism, and Lipid Research at Washington University, St. Louis, Mo., says that he continues to advise patients to "quit smoking, consume nutritionally balanced meals, and engage in physical activity/exercise training." Good advice regardless of pre-existing conditions. **EN**

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

To read Pemberton's entire column as it appeared in *The Spectator*, go to:
<http://www.spectator.co.uk/features/9185591/why-id-rather-have-hiv-than-diabetes>

READ ANY GOOD BOOKS LATELY?

As part of the *Endocrine News* redesign and desire to include a variety of new features, we are seeking individuals to write short book reviews. If you're interested in contributing, contact me at mnewman@endocrine.org. Also, if you've read any books lately that you think your fellow members would find helpful, please feel free to submit.

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Endocrine news

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

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

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Dear Mr. Newman,

I enjoyed the article, “Long Distance Relationship,” in the September 2015 issue of *Endocrine News*. It seems likely that the Endo ECHO healthcare professionals at the University of New Mexico find the remote consultation sessions with primary providers one of the most rewarding aspects of their week in terms of professional satisfaction. Conversely, simultaneous access to the opinions of multiple specialists on a case-specific basis provides many of the same benefits of a series of traditional consultations. Its advantages are major savings in time and travel expenses and the opportunity for the consultants and providers to be simultaneously interactive. A limitation, a major one, is that the patient is not part of the teleconnection.

I was disappointed that the article said nothing about how this program is funded and what financial compensation the Endo ECHO healthcare professionals receive for their participation. Specifically, are the consumers of the information that is dispensed at the Endo ECHO sessions, not a grant program, paying for this service and, just as important, is the payment intended for professional services rendered or is simply to pay Dr. Bouchonville for his administrative duties in running the Endo ECHO program? Would financial payments be different if the patient had a different endocrine disorder than diabetes mellitus?

These are key questions. If *Endocrine News* wants to encourage the type of service Endo ECHO provides, or for that matter the use of telecommunication in other aspects of medical practice, the articles should consider and critique the relevant financial aspects, particularly indicating what billing codes are lacking in telemedicine for endocrine disorders.

Sincerely,

Charles H. Emerson, MD, professor emeritus of medicine, University of Massachusetts, Boston, Mass.

Matthew Bouchonville Responds:

Before addressing Dr. Emerson’s questions, it is important to clarify what Endo ECHO is — and what it isn’t.

Endo ECHO is not traditional telemedicine, which supports a one-to-one connection between a provider and a patient. Instead, Endo ECHO facilitates virtual mentoring and guided practice for many groups of providers simultaneously. The goal of both Endo ECHO and Project ECHO writ large is not to treat individual patients, but to leverage case-based learning in order to dramatically increase workforce capacity — and access to care.

We call this exponential increase in treatment capacity “force multiplication.” In this way, patients with complex chronic conditions can get the care they need, in their own communities, from providers they know and trust.

We very intentionally do not see individual patients during our teleclinics. The multi-disciplinary specialty team members at the University of New Mexico Health Sciences Center (UNMHSC) hub in Albuquerque do not provide direct care to any patients during the teleclinics, and they do not receive any fee-for-service reimbursement for their participation.

Endo ECHO is not just about teleconsultation, either. It’s essentially a community of practice and knowledge-sharing that happens to be supported by very basic videoconferencing technology. Through our teleclinics, community providers learn from specialists, they learn from their fellow clinic participants as cases are presented, and they learn by doing. And the specialist team also learns, as new best practices emerge from community practice.

Under ECHO, there is no cost to the primary care providers who connect to the weekly Endo ECHO clinics. Project ECHO covers all the administrative and technological costs. Primary care providers bill for services they provide to Endo ECHO patients the same as they would for any other patients.

Dr. Emerson correctly identifies Endo ECHO’s most significant challenge: sustainability. Indeed, this applies not just to the Endo ECHO clinic, but to Project ECHO as a whole. Currently, Project ECHO — including Endo ECHO — relies on a combination of funding sources, including philanthropy, with different programs managing their funding in different ways. At UNMHSC, funding comes from a combination of public and private grant dollars and state funding. We are working with various partners on developing a broader sustainability model.

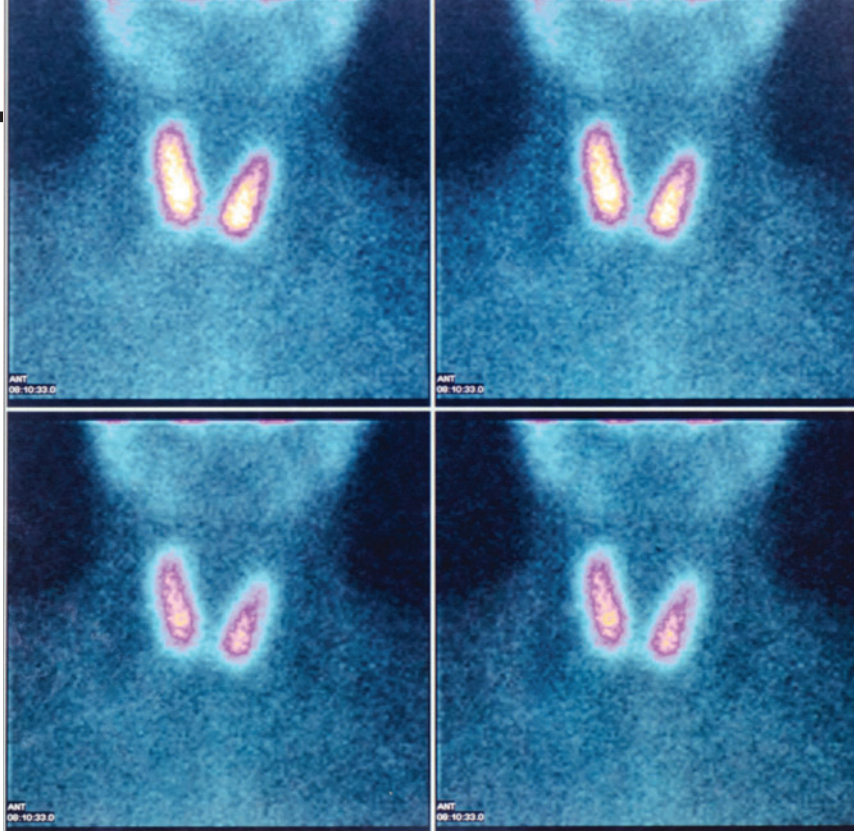
Despite this very real obstacle, Project ECHO continues to grow rapidly, with dozens of academic medical centers operating teleclinics that address more than 40 health conditions. It’s also being implemented in the VA and Department of Defense health systems — and in 11 countries. Ultimately, our goal is to touch the lives of one billion people by 2025.

And we need your help. I’m committed to doing what I can to spread the Endo ECHO clinic specifically, and I want to share what I’ve learned with other endocrinologists interested in making that happen.

For more information on how the ECHO model works, I encourage you to visit <http://echo.unm.edu>, and watch the two-minute animated video of the ECHO model. And, if you visit the Endocrinology TeleECHO Clinic page, you can watch a longer video produced for the American Diabetes Association on how Endo ECHO works.

Matthew Bouchonville, MD, medical director, Endo ECHO; University of New Mexico School of Medicine, Division of Endocrinology, Diabetes, and Metabolism, Albuquerque, N.M.

Long-Term Outcome Study Reinforces Clinical Utility of the Afirma[®] Gene Expression Classifier



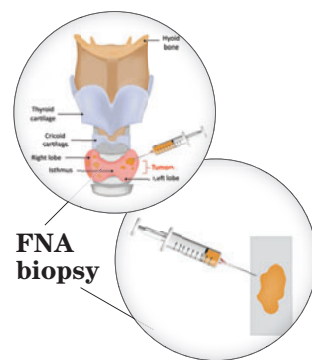
Long-term outcome data supporting the use of a test used to identify patients whose thyroid nodules are noncancerous when their fine needle aspiration (FNA) biopsy results are inconclusive were recently published in *The Journal of Clinical Endocrinology & Metabolism*. The test is marketed by Veracyte as the Afirma Gene Expression Classifier (GEC).

Researchers led by Trevor E. Angell, MD, endocrinologist at Brigham and Women's Hospital, evaluated 90 patients whose thyroid nodule FNAs were deemed benign by the Afirma GEC (following indeterminate cytopathology) between 2010 and 2014. Using ultrasound data available for 58 nodules in 56 of the patients, they compared rates of significant growth — an indicator of potential cancer — over a median of 13 months (range of four to 40 months) to those of 1,224 thyroid nodules with benign cytopathology results. The latter were from 873 patients who underwent FNA procedures over a 10-year period prior to introduction of the Afirma GEC and who were followed with ultrasound for a similar period of time.

They found that Afirma benign nodules showed similar growth as the cytopathology benign cases using either of two criteria: $\geq 20\%$ in two dimensions (8.6% vs. 8.3%) or $\geq 50\%$ in volume (17.2% vs. 13.8%). Patients in the Afirma-benign group were more likely to undergo surgery (13.8% vs. 0.9%), but cancer was only found in one patient.

The authors note that they report on change in Afirma benign nodules during a clinically relevant monitoring period, as cytologically benign thyroid nodules are typically followed with ultrasound at six to 18 months. Additionally, most of the patients studied remain in the care of Brigham and Women's Hospital, with up to four years of follow-up since their initial Afirma benign result.

BY DEREK BAGLEY



FNA biopsy

Findings: “Our findings show that thyroid nodules classified as benign by the Afirma GEC have similar growth during follow-up as nodules that are benign by cytopathology, which suggests comparable clinical behavior,” Angell says. “These data suggest that physicians can confidently monitor patients with benign GEC results, just as they would with patients whose cytopathology results are benign.”



Optimizing Endocrine Therapy for Breast Cancer

A review article published in the *Journal of the National Comprehensive Cancer Network* examining the evolving evidence for optimization of endocrine therapy in breast cancer patients highlights the unique ability of bioTheranostics' Breast Cancer IndexSM (BCI) molecular test to inform decisions regarding extended adjuvant endocrine therapy in patients with early stage, estrogen receptor-positive (ER+) breast cancer.

In the article, authors Amelia Zelnak, MD, of Emory University, and Ruth O'Regan, MD, of the University of Wisconsin, discuss the critical issue of determining which patients need extended adjuvant endocrine therapy and the value of molecular profiling. The authors cite key data from the TransATAC study demonstrating the prognostic ability of BCI in identifying which patients are at risk of late recurrence (>5 years post-diagnosis), as well as results from the NCIC MA.17 trial demonstrating the test's ability to determine likelihood of benefit from extended endocrine therapy. BCI is highlighted as the "only molecular assay to have been evaluated in trials in which patients received extended adjuvant therapy."

Findings: "Multiple studies have shown benefit for extending hormonal therapy to 10 years in patients with early stage, ER+ breast cancer, but endocrine therapy increases the risk of major safety issues and side effects," O'Regan says. "The use of molecular profiling clearly allows a more individualized approach to treating breast cancer, but only recently has an assay been available to determine which patients will truly benefit from extended endocrine therapy. Use of BCI will be critical to improving long-term outcomes for early stage, ER+ breast cancer. This could be practice-changing for some doctors."

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EDCs May Be Linked to Creating “Couch Potatoes”

A University of Missouri study suggests that female mice exposed to endocrine-disrupting chemicals (EDCs) may cause decreases in their future daughters’ metabolism and the amount of exercise and voluntary physical activity they engage in later in life. These disruptors, when introduced in developmental stages, are essentially creating “couch potatoes” among female mice and could predict future metabolic complications.

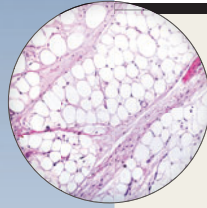
Researchers led by Cheryl Rosenfeld, PhD, DVM, associate professor of biomedical sciences in the College of Veterinary Medicine and an investigator in the Bond Life Sciences Center at the University of Missouri, Columbia, Mo., noted that physical inactivity has been proposed to be a leading cause of obesity and that a paucity of studies has considered whether EDCs, including BPA, affects this behavior.

“We found that if we exposed mice to one of two common endocrine disruptors — bisphenol A (BPA) or ethinyl estradiol (EE), which is the estrogen present in birth control pills, during development, it caused later disruptions in voluntary physical activity once the mice became adults,” Rosenfeld says. “Mice exposed to endocrine disruptors move around less, are more likely to sleep, and engage in less voluntary physical activity.”

To test the chemicals’ impact on metabolism and activity, researchers exposed mice to BPA and EE in the womb and during weaning through the mother’s diet. There was also a third group of mice whose mothers were placed on a control diet and were thus not exposed to either chemical. At weaning, the scientists then placed all the mice on the same control diet and measured their energy expenditure, body composition, and level of voluntary physical activity as adults. To further test the effects of voluntary exercise, the lab rigged bicycle computers to “hamster wheels” to track how far, fast, and for how long the mice ran. Researchers monitored the mice’s energy expenditure by measuring oxygen consumption and carbon dioxide production, and tracked the rodents’ movements during the day and at night.



Findings: The authors conclude that females developmentally exposed to BPA exhibit decreased motivation to engage in voluntary physical activity and altered metabolism of carbohydrates versus fats, which could have important health implications. “Female mice exposed to BPA and EE were less active than the control mice,” Rosenfeld says. “They moved around less at night — when these mice are typically most active — and moved more slowly, drank less water, and spent more time sleeping. In addition, BPA-exposed females burned more carbohydrates relative to fats, as compared to control mice. This is similar to the difference between obese and slender humans, and many researchers believe that burning more carbohydrates relative to fats can lead to fats gradually accumulating in the body.”



Just one night of lost sleep results in hypermethylation of regulatory regions of key clock genes. These effects are tissue specific and occur in adipose tissue but not in skeletal muscle.

“The lack of clock genes, even when ablated only in skeletal muscle or adipose tissue, results in systemic metabolic perturbations in animal models. These metabolic responses include hyperglycemia and insulin resistance, and can also result in obesity and type 2 diabetes [T2D] in animals.”

Acute Sleep Loss Can Alter Circadian Genes in Men


Just one night of wakefulness can lead to alterations in epigenetic and transcriptional profile of core circadian clock genes in key metabolic tissues, which could explain why shift workers are at an increased risk of metabolic morbidities, according to a new study published in *The Journal of Clinical Endocrinology & Metabolism*.

Researchers led by Jonathan Cedernaes, MD, PhD, of Uppsala University in Uppsala, Sweden, pointed out that animal studies have shown the circadian clock gene allows expression to coincide with anticipated metabolic requirements throughout the day and night. “The lack of clock genes, even when ablated only in skeletal muscle or adipose tissue, results in systemic metabolic perturbations in animal models,” they write. “These metabolic responses include hyperglycemia and insulin resistance, and can also result in obesity and type 2 diabetes [T2D] in animals.”

So the investigators set out to determine how these clock genes are affected at the epigenetic and transcriptional level in humans following a sleepless night — or acute total sleep deprivation (TSD). They examined 15 healthy men in a randomized, two-period, two-condition, crossover clinical study. The men underwent two sessions: one of a full night’s sleep and then overnight wakefulness. On the subsequent morning, serum cortisol was measured, followed by skeletal muscle and subcutaneous adipose tissue biopsies for DNA methylation and gene expression analyses of core clock genes

(*BMAL1*, *CLOCK*, *CRY1*, *PER1*). Finally, baseline and two-hour post-oral glucose load plasma glucose concentrations were determined.

The researchers found that in adipose tissue, acute sleep deprivation versus sleep increased methylation in the promoter of *CRY1* and in two promoter-interacting enhancer regions of *PER1*. In skeletal muscle, TSD versus sleep decreased gene expression of *BMAL1* and *CRY1*. Concentrations of serum cortisol, which can reset peripheral tissue clocks, were decreased, whereas postprandial plasma glucose concentrations were elevated after TSD.

Findings: The authors conclude that just one night of lost sleep results in hypermethylation of regulatory regions of key clock genes. These effects are tissue specific and occur in adipose tissue but not in skeletal muscle. Gene expression differences were observed for the investigated clock genes in skeletal muscle but not in adipose tissue. They go on to note that shift work is associated with many of the same phenotypes observed in transgenic animal models in which the circadian clock is disrupted, (e.g., glucose intolerance). “This suggests that our findings of altered peripheral clocks at the epigenetic and transcriptional level,” the authors write, “with ensuing glucose intolerance, following acute sleep loss may contribute to metabolic disruptions typically observed in humans with activities regularly scheduled during times that produce chronic desynchrony between tissue-specific clocks.” 

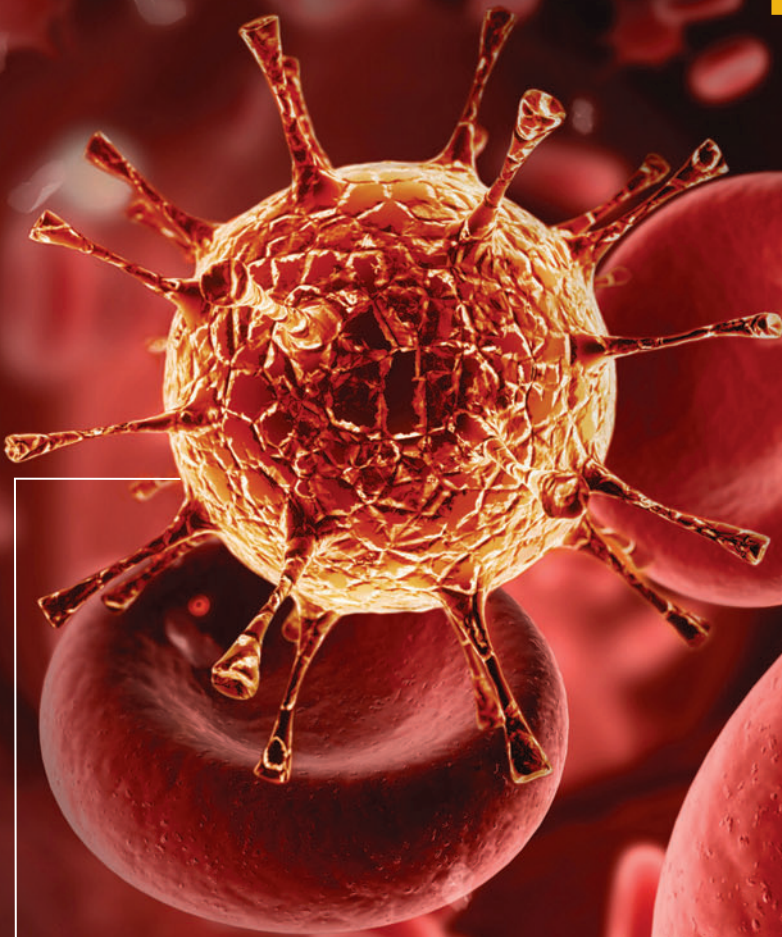
COVER STORY

Parallel

Protocols:

BY DEREK BAGLEY

Treating Diabetes
and HIV/AIDS



A possible side effect of some highly active antiretroviral (HAART) medications taken by patients with HIV is an enhanced risk of developing T2D.

As HIV-positive patients live longer, their risk for developing diabetes has increased along with their lifespans. Treating both of these conditions concurrently is challenging, but as with any other patient, lifestyle modification is a crucial component.

Last year, Max Pemberton, a psychiatrist in the United Kingdom's National Health Service and a regular columnist for a number of publications, wrote an op-ed in *The Spectator* titled **“As a doctor, I'd rather have HIV than diabetes.”**



Pemberton makes the case that HIV has become a manageable chronic disease, and people with the disease have about the same life expectancy as healthy people. He writes that HIV is “regarded in public health terms in the same category as, for example, type 2 diabetes,” but goes on to say that the prognosis for patients with T2D is much worse for those with HIV. The article raised some eyebrows, publicly and in the medical community, with some disagreeing with Pemberton because HIV and T2D are contracted and treated in very different ways.

It's certainly a controversial viewpoint, and given the choice of the two diseases to have, it's up for debate. HIV numbers are holding steady: According to the Centers for Disease Control and Prevention (CDC), there were 1.2 million people ages 13 and older in the U.S. with HIV at the end of 2012, and about 27,000 living with stage 3 of HIV (AIDS), but these people are living longer now that advances have been made in the past 30 years. Meanwhile, diabetes numbers continue to climb. The CDC estimates that there are now 29 million people with diabetes and 86 million with prediabetes, and most experts believe those numbers will continue to rise.

“The global gains that have been made in drastically reducing mortality from HIV/AIDS means that millions of infected people are living longer,” says Sam Dagogo-Jack, MD, a professor of medicine and the director of the Division of Endocrinology, Diabetes, and Metabolism at the University of Tennessee Health Science Center, and president of the American Diabetes Association. “And, with aging comes the associated morbidities such as diabetes, heart disease, degenerative, and neoplastic disorders.”

So for some there is no choice, and that means living with both dangerous diseases, while their physicians must treat both diseases in concert.



“The global gains that have been made in drastically reducing mortality from HIV/AIDS means that millions of infected people are living longer. **And, with aging comes the associated morbidities such as diabetes, heart disease, degenerative, and neoplastic disorders.**”

—SAM DAGOGO-JACK, MD, PROFESSOR OF MEDICINE, DIRECTOR, DIVISION OF ENDOCRINOLOGY, DIABETES, AND METABOLISM, UNIVERSITY OF TENNESSEE HEALTH SCIENCE CENTER, MEMPHIS



IT'S COMPLICATED

A diagnosis of HIV might not be a death sentence anymore, but complications still abound. Treatments vary by patient, and even when the correct course of treatment is found, the side effects can start to outweigh the benefits. Indeed, a possible side effect of some highly active antiretroviral (HAART) medications taken by patients with HIV is an enhanced risk of developing T2D.

“In addition to the age-related increase, the risk of diabetes is significantly increased by exposure to HAART,” Dagogo-Jack says. “Components of the HAART regimens, including but not limited to the protease inhibitors, have been convincingly associated with increased risks of diabetes. With some of the drugs, congruent mechanisms (such as molecular interference with insulin action and impairment of insulin secretion) leading to glucose dysregulation have been demonstrated in experimental models as well in humans.”

Some standard therapies, like statins, become less effective in HIV-positive patients, either through side-effect profiles that are not tolerable, or by interacting with and altering the metabolism of combined antiretroviral therapy (cART) medications. These can lead to ineffective cART or enhanced drug toxicities. “Most importantly,” says Kevin Yarasheski, PhD, a professor of medicine, cell biology and physiology, and physical therapy in the Division of Endocrinology, Metabolism, and Lipid Research at Washington University in St. Louis, Mo., “standard therapies don’t typically target the presumed underlying problem — residual immune cell activation and inflammation — and thus may not successfully treat diabetes and other cardiometabolic complications.”

Physicians have to make certain that anti-diabetes drugs do not compromise an HIV-positive patient’s immune and virologic status. “Doing so might allow the virus to mutate and become even more difficult to treat, and can reduce protection against potentially fatal opportunistic infections,” Yarasheski says.

TANDEM TREATMENTS

Again, people living with these chronic diseases in tandem have to be treated differently, often depending on how and when they developed each one (prediabetic who contracted HIV, hyperglycemic after the start of HIV therapy, etc.). The risk factors for T2D in the general populace (family history, overweight/obesity, habitual inactivity, hypertension, dyslipidemia, and so on) apply equally to HIV-infected patients. Early clinical encounters should document the presence of any diabetes risk factors.



Sam Dagogo-Jack, MD, points to a 2015 article in *HIV Medicine* by Amit Acchra, PhD, of the University of New South Wales, Australia, that found an 11% increased risk of diabetes for each one-unit increase in BMI.

Additional risks from HIV should also be recognized, but according to Dagogo-Jack, the appropriate focus should be on containment of the virus. “Where a regimen is effective in suppressing viral load, boosting CD4 counts and warding off opportunistic infections,” he says, “it would not be prudent to switch or substitute HIV medications on account of risk or even occurrence of incident diabetes. In my opinion, any HAART-emergent diabetes can be managed effectively with available medications.”

One of the first and most important steps for the patient should be lifestyle modification. Dagogo-Jack says that weight gain following initiation of HAART was a strong predictor of incident diabetes. He points to a 2015 article in *HIV Medicine* by Amit Acchra, PhD, of the University of New South Wales, Australia, that found an 11% increased risk of diabetes for each one-unit increase in BMI. “That’s a powerful opportunity for primary prevention with lifestyle intervention, as weight gain occurs frequently following successful treatment of HIV. There’s real opportunity for clinical researchers to translate well-known diabetes prevention initiatives in this particular population.”

Physicians should also be on the lookout for HIV and T2D complications that can mimic each other. For instance, nephropathy is present in both diseases. However, the time course, evolution, and magnitude of proteinuria and other features should help differentiate the two conditions. “In our practice,” Dagogo-Jack says, “referral for expert nephrology opinion is the rule whenever the picture does not fit snugly with classical diabetic nephropathy.”



AT A GLANCE

- ▶ While HIV is no longer a death sentence, it can carry some complications like an increased risk of type 2 diabetes.
- ▶ Treatment can vary from patient to patient, and sometimes even the treatments themselves can lead to HIV-positive patients developing diabetes.
- ▶ Pharmacological advancements are still being made, but the best first course of action is often lifestyle modification.



Physicians have to make certain that anti-diabetes drugs do not compromise an HIV-positive patient's immune and virologic status.

“Most importantly, standard therapies don't typically target the presumed underlying problem — **residual immune cell activation and inflammation** — and thus may not successfully treat diabetes and other cardiometabolic complications.”

— KEVIN YARASHESKI, PHD, PROFESSOR OF MEDICINE, CELL BIOLOGY AND PHYSIOLOGY, AND PHYSICAL THERAPY, DIVISION OF ENDOCRINOLOGY, METABOLISM, AND LIPID RESEARCH, WASHINGTON UNIVERSITY, ST. LOUIS, MO.

Yarasheski's team has been looking at drugs to cut down on these complications risks, namely inflammatory responses in HIV-positive patients that lead to diabetes and other cardiometabolic problems. In a study published in *The Journal of Clinical Endocrinology & Metabolism* earlier this year, they found that sitagliptin improved glucose metabolism and reduced inflammation in HIV-positive adults taking antiretroviral therapy. “We believe that people living with HIV are exposed to multiple pro-inflammatory activators or processes,” Yarasheski says.

According to Yarasheski, residual HIV replication persists in certain immune cell reservoirs and potentially other reservoirs that are not cART accessible. In these host immune cell sanctuaries, chronic immune cell activation and inflammatory processes persist and augment the pro-inflammatory states associated with cardiometabolic complications. In addition, immune cell activation localized to regions like the gut may compromise gut integrity, releasing gut bacteria and other microbes into the circulation.

“These are also associated with a host of downstream, pro-inflammatory events that may exacerbate cardiometabolic disease risk among people living with HIV,” he says. “Finally, many HIV-positive people are living to be around 70 years old, and advanced age is associated with enhanced pro-inflammatory processes that might respond to sitagliptin or other ‘anti-inflammatory’ interventions.”

Yarasheski and his team tested sitagliptin because preliminary reports had shown it to be safe, did not have a serious adverse event profile, and did not interact with cART medications or their metabolism. They also found that the drug could

possibly lower glucoregulatory hormones during an oral glucose tolerance test in HIV-positive adults with T2D. The hope is that sitagliptin could become an add-on therapy for people living with HIV and T2D who are already receiving first-line anti-diabetes medications but not achieving glucose control or hemoglobin A1c goals. But there's work to be done, and more studies are needed before that can happen.

“A DIFFERENT MINDSET”

Of course, the ultimate hope and end goal is for a cure for both of these diseases or a vaccine that prevents the transmission of HIV or the development of T2D, but that may be a long way off yet.

Dagogo-Jack says he has seen an increased awareness of patients living with HIV and T2D, but whether such knowledge has been actionable is open to question. “What I perceive from colleagues in the field is an expectation of a ‘cheat sheet’ of HIV drugs arranged in a hierarchy of ‘best for diabetes’ to ‘worst for diabetes,’” he says. “Initial experience fostered an understanding that the protease inhibitors were driving all the increased risks for insulin resistance and diabetes. Subsequent refinements in knowledge have now implicated a broader array of HIV drugs as posing a risk for diabetes. Given my aforementioned reservation about switching medications on account of diabetes risk and the unlikelihood that a credible ‘cheat sheet’ hierarchy of HIV medications can be developed, clinicians need a different mindset.”

Dagogo-Jack notes that the estimated incidence of HAART-emergent diabetes ranges from 5.7 to 47.0 cases per 1,000 person-years and that the higher end came from older estimates with limited samples and the lower end estimates came from more recent larger databases so they may be closer to the truth. “With a working estimate of approximately 10 cases per 1,000 person-years, the majority of HIV patients receiving antiviral treatment would not develop diabetes,” he says.

Therefore, he sees risk profiling as beneficial. A family history of diabetes along with being overweight or obese before treatment, or evidence of early weight gain with initiation of HAART should trigger referral for aggressive dietary modification and physical activity counseling, Dagogo-Jack says. “Admittedly,” he continues, “these measures would be taken on empirical grounds, pending availability of large-scale multi-center data from effectiveness studies.”

Yarasheski plans to further investigate the potential beneficial actions of sitagliptin in people living with HIV and experiencing residual immune cell activation, inflammation, glucoregulatory defects, as well as several other end-organ complications (vascular inflammation, NAFLD, bone demineralization, neurocognitive deficits) for which pre-clinical data suggest that sitagliptin and/or better glucose control might exert a beneficial effect in humans. He anticipates more effective, less metabolically toxic anti-HIV drugs being developed and introduced to the market, and he says that we need worldwide distribution and availability of all anti-HIV medications, especially in low- and middle-income countries where the rates of HIV infection are much greater than in the U.S.

For now, he says, “we continue to advise people living with HIV, an independent risk factor for cardiometabolic complications, to quit smoking tobacco, consume nutritionally balanced meals, and engage in regular physical activity/exercise training.” ^{EN}



BAGLEY IS THE ASSOCIATE EDITOR OF *ENDOCRINE NEWS*. HE WROTE ABOUT TREATING TYPE 1 DIABETES AND EATING DISORDERS IN THE OCTOBER ISSUE.

Despite controversy and confusion in the past, hormone replacement therapy in menopausal women can still get the best results. However, as with any hormone therapy, the treatment needs to be individualized to a patient's risk factors and preferences.





The issue of menopausal hormone replacement therapy (MHT) continues to confuse many clinicians, even though experts and guidelines agree that physicians should not shy away from providing estrogen to treat troublesome symptoms of menopause.

THE Great DEBATE

BY ERIC SEABORG

The popularity of using estrogen has been swinging back and forth like a pendulum for decades. Prescriptions went on an upswing with the approval of Premarin for the prevention of osteoporosis in the 1980s and only grew in popularity over the following decade as observational studies suggested benefits such as a protective cardiovascular effect and lower all-cause mortality. At the turn of the century, huge numbers of postmenopausal women were using MHT.

The use plummeted when the initial reports from the Women's Health Initiative (WHI) were published more than a decade ago. That huge study was begun in the early 1990s to look at the use of estrogen and progestin in healthy menopausal women for the prevention of chronic disease. It was stopped early when initial results indicated an increased risk of invasive breast cancer in some women as well as increases in coronary heart disease, stroke, and pulmonary embolism. These initial reports received great attention from the press, with much less attention paid when further analysis of the data demonstrated that the risks were lower than first reported — and that estrogen alone did not increase breast cancer risk.

A significant difference in effects emerged when results were stratified by age. The risks were greater among older women — those further removed from menopause — and the risk/benefit ratio was much better in younger women — those who could benefit from hormone therapy to treat menopausal symptoms.



WHAT THE WHI DIDN'T MEAN

“The WHI was very important in clarifying that hormone therapy should not be used for prevention of cardiovascular disease, cognitive decline, or other chronic diseases, but the WHI never indicated that hormone therapy should not be used to treat menopausal symptoms,” says JoAnn Manson, MD, DrPH, the Michael and Lee Bell Professor at Harvard Medical School and chief of the Division of Preventive Medicine at Brigham and Women’s Hospital, in Boston. “The WHI results were not intended to be extrapolated to the short-term use of hormone therapy for the treatment of menopausal symptoms in early menopause. But the results were extrapolated very widely to include all women,” by many physicians, media reports, and patients.

Some clinicians may be concerned about “black box” warnings, but expert consensus is that hormones offer the best option for many women to alleviate symptoms such as hot flashes, night sweats, vaginal dryness, and pain on intercourse.

“You need to look at the patient’s background, her risks, and her current health status, and balance that against what hormones will do for her,” says Nanette Santoro, MD, E. Stewart Taylor Chair of Obstetrics and Gynecology at the University of Colorado School of Medicine, in Aurora. “In most cases, for women who are very close to the age of menopause, hormones provide the most relief with the least risk. I prefer them as a first-line agent, because then patients know what maximal relief looks like. Then if they are going to settle for another treatment because they are afraid or they have been taking hormones for long enough that a risk is beginning to emerge, at least we know what we could do with hormones.”

THE TIMING HYPOTHESIS

The analyses of the WHI data stratified by age and other evidence have given rise to the “timing hypothesis,” which proposes that the effects of MHT on heart disease and the overall risk-to-benefit ratio depend on a woman’s age and when she starts hormones in relation to her time of menopause. Estrogen therapy may have a more favorable effect in women closer to the age of menopause than in older women.

The evidence for the hypothesis comes from a variety of sources. For example, animal evidence comes from cynomolgous monkeys, which are a good model for humans because of their 28-day cycle and other similarities, says Rogerio A. Lobo, MD, professor of obstetrics and gynecology in the Division of Reproductive Endocrinology at Columbia University. When the monkeys are ovariectomized

“In most cases, for women who are very close to the age of menopause, hormones provide the most relief with the least risk. I prefer them as a first-line agent, because then patients know what maximal relief looks like.”

— NANETTE SANTORO, MD, E. STEWART TAYLOR
CHAIR OF OBSTETRICS AND GYNECOLOGY,
UNIVERSITY OF COLORADO SCHOOL
OF MEDICINE, AURORA



and fed a high fat diet, they develop atherosclerosis. If they are given hormones immediately, the atherosclerosis is inhibited. But the treatment has no effect if it is delayed and given to older monkeys.

The theoretical underpinning of this cardiovascular protection is that estrogen provides a protective effect in healthy blood vessels. In a blood vessel with a normal endothelium, estrogen increases the synthesis of nitric oxide (leading to vasodilation), decreases inflammatory adhesion to the blood vessel, and decreases the progression of atherosclerotic plaque. But given later, estrogen can have opposite effects — it cannot benefit a diseased blood vessel but instead increases the risk of rupture of advanced, vulnerable atherosclerotic plaques and of thrombotic occlusion of the blood vessel.

THE ELITE PLAY FOR KEEPS

Studies designed to test the timing hypothesis in humans are reporting mixed results so far. The Kronos Early Estrogen Prevention Study (KEEPS) trial tested the effects of two types of estrogen (transdermal and oral) with progesterone against placebo in 720 healthy women who were within three years of menopause. After four years of treatment, there was no difference among the groups in two markers of cardiovascular disease — carotid intima-media thickness (IMT) and coronary calcium. (Lobo, Manson, and Santoro were all principal investigators on the KEEPS trial.)

In contrast, the Early Versus Late Intervention Trial with Estradiol (ELITE) trial was designed to more specifically test the timing of treatment. The trial tested estradiol vs. placebo in some 650 postmenopausal women in two age groups: less than six years after the onset of menopause or at least 10 years after. After six years of treatment, younger women who received estradiol had a slower progression of atherosclerosis as measured by carotid IMT than the placebo group. The older women showed no difference. These results are preliminary, but when the final results are published they could have a large impact on increasing the acceptance of the timing hypothesis.



AT A GLANCE

- ▶ Although postmenopausal hormone therapy may appear controversial or confusing, expert consensus and evidence support its use for the treatment of menopausal symptoms.
- ▶ Many experts find the evidence compelling for the “timing hypothesis” that women who start hormone therapy close to the time of menopause have a more favorable benefit profile than women who start at an older age.
- ▶ The initial reports from the Women’s Health Initiative were sometimes misinterpreted in a way that unfairly turned some clinicians away from the therapy and younger clinicians may lack experience with it.

meno pause

“There is really no reason to deny women treatment with hormone therapy when they have significant menopausal symptoms and are appropriate candidates.”

— JOANN MANSON, MD, DRPH, THE MICHAEL AND LEE BELL PROFESSOR AT HARVARD MEDICAL SCHOOL; CHIEF, DIVISION OF PREVENTIVE MEDICINE, BRIGHAM AND WOMEN'S HOSPITAL, BOSTON, MASS.

ON POINT FROM THE ENDOCRINE SOCIETY

“Postmenopausal Hormone Therapy: An Endocrine Society Scientific Statement” can be downloaded from: <http://www.endocrine.org/endocrine-press/scientific-statements>.

The Endocrine Society's Hormone Health Network offers an award-winning “Menopause Map” educational tool for patients: www.hormone.org/MenopauseMap.

HOT FLASH: A MISSED EDUCATION

However those studies shake out, experts agree that MHT should not be used for prevention of chronic conditions — but many are concerned that the initial reporting of the WHI results pushed the pendulum so far away from hormone therapy use that today's younger clinicians did not receive training in its use. Some women report difficulty in finding satisfactory treatment of symptoms.


“In 2000, most of our internal medicine trainees and all the ob-gyn trainees knew everything about hormones and how to give them. Now, there has been a generation that didn't learn how to give it that sort of says, ‘I don't know anything about it, so I'm not going to give it,’” says Margaret E. Wierman, MD, professor in medicine, ob-gyn, physiology, and biophysics, at the University of Colorado School of Medicine and chief of endocrinology at the Denver VA.

Many clinicians worry that the treatment is “tainted.” “They feel like, ‘As soon as I prescribe it, I am going to see an article next week that is going to make me regret that I did it, so let me just stay away from that,’” says Santoro. But that attitude deprives their patients of a beneficial therapy.

DECISION-MAKING HELP

A lack of familiarity can be daunting, because hormone therapy involves “a complex balance of benefits and risks,” Manson says. The contraindications include a history of blood clots in the legs or lungs, a history of breast or endometrial cancer, unexplained vaginal bleeding, and a high risk of cardiovascular disease. And treatment should be time limited, with guidelines recommending that five years for estrogen-progestin and seven years for estrogen alone should be adequate for most patients.

The North American Menopause Society developed a free mobile app and clinical decision support tool called MenoPro with versions for both patients and clinicians designed to facilitate shared decision making. The app's algorithm takes into account medical history and risk factors as well as personal preferences on hormonal versus nonhormonal treatments. “It helps to assess whether or not a woman is a good candidate for hormone therapy and reviews the options for nonhormonal treatment for those who are not,” says Manson, who helped develop the app. “It encourages clinicians to have women try lifestyle modifications for at least three months before starting pharmacologic therapy.”

“There is really no reason to deny women treatment with hormone therapy when they have significant menopausal symptoms and are appropriate candidates,” Manson concludes. 

SEABORG IS A FREELANCE WRITER BASED IN CHARLOTTESVILLE, VA. HE WROTE ABOUT ENDOCRINE-RELATED CLINICAL TRIALS IN THE JULY ISSUE.

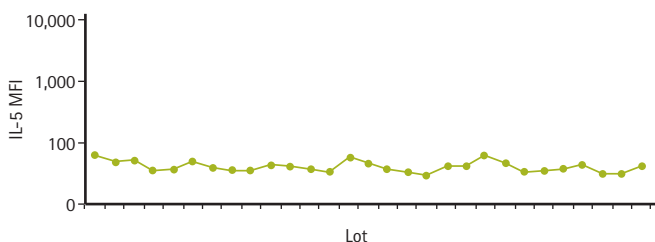
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Medical mistakes not only damage the reputation of the medical profession and institutions but instill a sense of fear in patients. Technology upgrades and policy changes are markedly reducing these incidents.



BY MELISSA MAPES

FATAL Errors

Estimates for medical error mortalities seem to get higher with each report that is released.



A 1999 study by the Institute of Medicine claimed that 98,000 people die in the U.S. each year due to mistakes during medical care. About a decade later, the Office of Inspector General for Health and Human Services reported that 180,000 Medicare patients die from hospital mishaps per year, and that's just a fraction of all patients who died during medical care.

Then, in 2013, research published in the *Journal of Patient Safety* estimated between 210,000 and 440,000 deaths from avoidable medical errors annually — positioning these mistakes as the third-leading cause of death in the U.S.

While it is a generally accepted fact that a substantial number of deaths occur from preventable medical mistakes, it is a difficult issue to measure. Barriers to research continue to hinder these studies, including failure to report errors and inconsistencies in patient records. No one can be entirely certain of the correct figures because of such obstacles.

Nonetheless, the 210,000 to 440,000 range from the *Journal of Patient Safety* is frequently cited across literature, and experts consider the research methods behind it to be sound. The estimate may not offer a precise number, but it clearly demonstrates cause for concern. Even at the lowest number of 210,000 deaths annually, medical errors would still fall below only heart disease and cancer as the top killers in the U.S.

“ During the past several decades, certain instances of error have led to systematic changes in hospitals. **Among these cases, anesthesia stands out as a prime example.**”



WHAT IS A MEDICAL ERROR?

One of the greatest challenges in determining the number of deaths caused by mistakes during treatment is actually defining the term “medical error.”

A study in the *Canadian Journal of Surgery* argued that, “a lack of standardized nomenclature...[has] hindered data synthesis, analysis, collaborative work, and evaluation of the impact of changes in healthcare delivery.”

Without consensus on definition, each study might be categorizing incidents as errors based on vastly different criteria. Thus, the authors aimed to develop wording that would provide “a clear, comprehensive, and universally accepted definition of ‘medical error’ that explicitly includes the key domains of error causation and captures the faulty *processes* that cause errors, irrespective of outcome.”

The authors emphasize the importance of focusing on the origins of medical errors, which they imply stem from systematic downfalls (i.e., issues with processes). When there is a systematic issue, mistakes are likely being made far more often than the few times they may lead to death or harm.

So, they proposed the following definition for medical error: “an act of omission or commission in planning or execution that contributes or could contribute to an unintended result.”

The result of a mistake could be nonthreatening to a patient’s life but would still be considered a medical error according to this definition. Not all medical errors lead to death, of course. But even in the absence of harm, it is important to include missteps with the potential to cause damage.

Unfortunately, as the slip-ups that do not lead to death or injury likely go unnoticed, no strong estimates of total healthcare blunders exist.

MOST COMMON MISTAKES

A number of common errors have been identified as those that could (and sometimes do) result in death or harm. For example, the Institute of Medicine says that about 1.5 million people suffer from a medication mistake every year — meaning that a patient receives the incorrect dose, the wrong drug, has a negative reaction, or encounters a bad drug combination.

In 1995, Betsy A. Lehman, an award-winning writer for *The Boston Globe*, died from a massive overdose of two chemotherapy drugs. Her passing gained substantial press — perhaps due to her role as a prominent health reporter — and brought medication errors into the public eye.

Other frequent issues include: unnecessary blood transfusions that may lead to infection, incorrect diagnosis, mistakes while performing a procedure or operation, and failure to act on the results of a test in a timely manner — among numerous other categories.

Another oft-mentioned error is wrong-site surgery. An x-ray film might be mislabeled, and a surgeon could amputate the wrong leg. Marking the surgical site and making the patient a part of this process — in addition to multiple checks of information before operating — have reduced such incidents. Still, a survey by the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) claims that wrong-site surgery still occurs 40 times a week in the U.S.

During the past several decades, certain instances of error have led to systematic changes in hospitals. Among these cases, anesthesia stands out as a prime example.

Anesthesia-related mortalities dropped from approximately one in 10,000 to one in 200,000 in the early 1980s after an exposé aired on the TV show *20/20* called “The Deep Sleep: 6,000 Will Die or Suffer Brain Damage.” The story highlighted the deaths of several patients who passed away under anesthesia due to mistakes such as placing an endotracheal tube in the esophagus rather than the trachea. Now, patients undergo pulse oximetry and end-tidal carbon dioxide monitoring while anesthetized. The incidence of anoxic brain injury and other serious complications have dropped dramatically as a result.

SYSTEMIC FAILURES

The Institute of Medicine report titled “To Err Is Human” points out that multiple converging factors lead to medical errors, despite the instinct to blame a singular person when a mistake occurs.

“People working in healthcare are among the most educated and dedicated workforce in any industry,” the report states. “The problem is not bad people; the problem is that the system needs to be made safer.”

Like the study in the *Canadian Journal of Surgery*, the Institute of Medicine explains that mistakes occur as a systematic failure, not an individual failure.



AT A GLANCE

- ▶ Deaths related to medical errors are estimated between 210,000 and 440,000 each year — making them the third-leading cause of death in the U.S.
- ▶ In addition to other factors, the challenge of developing an agreed-upon definition of “medical error” has hindered research on the subject.
- ▶ EHR systems and adjustments to organizational culture, strong leadership, and education can improve patient safety.

COMMON MEDICAL ERRORS



“Whether human or machine, no system is faultless, yet new technology and policies are helping to make patient safety better than ever.”

▶ **MEDICATION ERRORS**

Example: prescribing a dangerous drug combination

▶ **DIAGNOSTIC ERRORS**

Example: misdiagnosis or late diagnosis

▶ **HOSPITAL-ACQUIRED INFECTIONS**

Example: catheter-related infection

▶ **UNINTENTIONAL FALLS**

Example: an elderly patient slipping on a slick hospital floor

▶ **SURGICAL ERRORS**

Example: amputating the wrong limb

▶ **PHARMACY ERRORS**

Example: mislabeling a prescription

▶ **LAB ERRORS**

Example: mixing-up the results of two different patients

▶ **TREATMENT ERRORS**

Example: using outdated procedures for patient care

▶ **FOLLOW-UP CARE**

Example: adequate instructions for care are not provided for care after a patient is discharged from the hospital

There are several primary types of errors that occur in healthcare systems. Knowledge-based errors take place when the provider does not have the training or resources to prevent a mistake. A medication might be prescribed without awareness of a negative interaction with another drug a patient is taking.

Rule-based errors come into play when a rule is applied incorrectly or not applied at all. Such mistakes could also be due to badly formulated rules. Without clearly articulated procedures in place, social scientists have found that individuals may end up with faulty interpretations.

Action-based errors, or “slips,” can be as simple as a pharmacist accidentally grabbing the wrong bottle off a shelf. Anytime the wrong button is accidentally pushed on a piece of equipment, it is an action-based error. The intention and knowledge to complete a task correctly is there, but some unintentional action occurs that results in a potentially dangerous mistake.

Finally, memory-based errors happen when a provider simply forgets an essential fact for treating a patient, like whether or not they are allergic to penicillin. Lapses in memory are human, but systemic safeguards can be put in place to avoid grave consequences in the healthcare realm.

The categories of error come from human behavior research in relation to the workplace and apply across many fields, not just medicine. In addition to providing a better understanding of the types of mistakes that occur, such studies also propose helpful solutions.

AVOIDING MEDICAL ERRORS

With the advent of electronic health records (EHR), a number of computerized fail-safes can be exercised to avert mistakes.

The Carnegie Mellon University Living Analytics Research Centre investigated the ways in which EHRs affect patient safety and discovered that the use of electronic records has led to a 27% drop in aggregated patient safety events. The areas of improvement included 30% fewer medication-related mistakes and a 25% decline in negative events involving tests, procedures, or treatments.


Several similar studies have also found that the automatic alerts and thorough documentation provided by electronic record software substantially reduce medical errors. These promising numbers account for some of the pressure to adopt EHR systems and meaningful-use requirements.

While EHR systems appear to be a boon for reducing mistakes, they cannot eliminate 100% of hospital mishaps. The U.S. Department of Health and Human Services (HHS) outlines a few additional strategies for preventing errors in the long run.

The first tactic involves adjustments to organizational culture. The HHS encourages hospitals to “adopt a culture that eliminated the blame and shame associated with medical errors.” If employees realize that they are unlikely to be punished by the administration for an understandable human error, then they are more likely to report blunders. This data can then help identify the issues in the systems that are allowing mistakes to happen.

The second method focuses on leadership. Leaders at hospitals need to actively engage staff and put the proper procedures in place to implement such initiatives. HHS recommends routine visits to clinical units by senior staff members to discuss safety issues.

Finally, educating providers about the root causes of error has also proven key to reducing mistakes. Again, data collected about an adverse event can highlight failures in the system. By making medical staff aware of these potential pitfalls, they are better equipped to avoid them.

It may take several years before current and reliable research is released on medical errors, but deaths related to these mistakes seem likely to drop. Whether human or machine, no system is faultless, yet new technology and policies are helping to make patient safety better than ever. 

MAPES IS A WASHINGTON, D.C.–BASED FREELANCE WRITER AND A REGULAR CONTRIBUTOR TO *ENDOCRINE NEWS*. SHE WROTE THE OCTOBER COVER STORY ON TRANSGENDER TREATMENT ISSUES.

DRUM ROLL

ANNOUNCING THE 2016 ELECTION RESULTS

The Endocrine Society's Nominating Committee is pleased to announce the results of the 2016 Election that concluded on October 12, 2015. Congratulations to the following Society leaders who will assume their new positions at the Society's Annual Business Meeting on April 4, 2016 during ENDO 2016 in Boston, Massachusetts.

President-Elect (Clinical Science)
Lynnette K. Nieman, MD

Vice President (Physician-in-Practice)
Howard B. A. Baum, MD

Council (Basic Science Seat)
Daniel J. Bernard, PhD

Council (At Large Seats)
Carol H. Wysham, MD
Guillermo E. Umpierrez, MD



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Practice Interrupted

FROM A BURST WATER PIPE TO A CATAclySMIC DISASTER, BEING PREPARED FOR WHATEVER NATURE'S WRATH OR MAN'S MISTAKES MAY BRING IS CRUCIAL TO KEEPING YOUR PRACTICE — AND YOUR PATIENTS — SAFE.

BY KURT ULLMAN



Disasters in the medical office run a gamut of exposures. From something as routine as a fire, to hurricanes, tornadoes, or flooding, these situations require planning to lessen their impact on both the practice and your patients.

“Many physicians don’t believe that disasters will ever happen to them or they are too busy with other things to think about it,” says Owen Dahl, Owen Dahl Consulting, The Woodlands, Texas. “However, now is the time to plan for emergencies. You have a lot of decisions to make in a very small time frame and this is not the time to make up interventions as you go along.”

There are three major areas of concern to be addressed. The first is reconstituting the medical side of the practice. The second is putting the business side back together. The third is the continuing need to take care of your patients.

MEDICAL RECORD RECOVERY

“One of the most important things is having medical records available in a timely fashion,” says Vivian Fonseca, MD, chief of the endocrinology section at Tulane University Health Sciences Center, in New Orleans, La. “With the adoption of electronic health records (EHR) that is very doable. You should be backing up these files up to the cloud or offsite storage daily as part of regular office routine.”

Under these circumstances, planning centers on making sure the practice and/or its information technology people know how to remotely access the records. If you back up to hard drives and take them off site, make sure that whoever has that responsibility puts them in a safe place that can be easily accessed. Know that if a disaster occurs, the backups may not be readily available if the storage site is also destroyed. Even a safety deposit box in a bank can cause concerns if the branch is closed.

RECONSTITUTING THE BUSINESS SIDE

Routine procedures should also take care of the need to back up major business records. Again, the main thing for planning purposes is to know where the copies are and how to access them remotely.

“A consideration is making sure your insurance coverage is adequate,” Dahl says. “You want to have business interruption insurance to pick up costs and replace revenues. Talk to your insurance provider to make sure you are covered for all likely hazards. Most plans won’t cover flood damage, for example.”

Another integral part of disaster planning is where to relocate the office. There should be multiple plans based on the likely size of the problem.

For example, reciprocal agreements with another physician on the other side of town will suffice for fire and possibly for flood. If tornadoes occur, then you may want to work with practices in another county or nearby city. Hurricanes may require relocating to another state altogether. If you lease your office space, ask your landlord about emergency plans they might have to disperse their tenants among other buildings they own.

KEEP IN TOUCH

Also work out ahead of time how staff and patients will be advised of changes. Personnel phone and email information can be printed and held off site. Patient data can be extracted from the EHR when it is back online. Also look at alternative channels including local and social media to get the word out.

Some disasters such as snowstorms and hurricanes may give you enough time to notify all concerned of what to expect. Fires or tornadoes often require your response in real time.

Helping patients through disruptions in service related to a disaster can be viewed as a part of “first, do no harm.” Patient-related interventions should be part of patient teaching and go past merely how to stay in touch with the doctor.

PATIENT EDUCATION

“I was a physician in Houston and worked with many of the patients evacuated from Louisiana following Katrina,” says Rubina Heptulla, MD, division chief of pediatric endocrinology and diabetes at The Children’s Hospital at Montefiore in New York City. “Many showed up without medical records.”

RESOURCES FOR DISASTER PLANNING

- ▶ **Model Disaster Plan for Medical Offices — Kentucky Medical Association**
http://www.kyma.org/uploads/file/Patient_Safety/Physicians/Disaster_Plan.pdf
- ▶ **Medical Office Preparedness Planner — Centers for Disease Control and Prevention**
http://www.cdc.gov/phpr/healthcare/documents/Medical_Office_Preparedness_Planner.PDF
- ▶ **Emergency Preparedness Resource Center — Medical Group Management Association**
<http://www.mgma.com/practice-resources/topics-overview/emergency-preparedness-resource-center>
- ▶ **Manage My Practice Blog**
<http://managemypractice.com/is-your-group-ready-for-a-disaster-a-medical-practice-checklist/>
- ▶ **Disaster Preparedness and Medical Home — National Center for Medical Home Implementation**
http://www.medicalhomeinfo.org/about/newsletter/spotlight_issues/disaster_preparedness.aspx
- ▶ **Ready.gov — Federal Emergency Management Agency**
<http://www.ready.gov/>
- ▶ **Natural Hazards and Disasters Information Resources — Natural Hazards Center, University of Colorado**
<http://www.colorado.edu/hazards/resources/>
- ▶ **Tips for Emergency Preparedness. American Diabetes Association.**
<http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/tips-for-emergency-preparedness.html>
- ▶ **The Medical Practice Disaster Planning Workbook — Owen Dahl Consulting**
http://www.owendahlconsulting.com/section_153_The-Medical-Practice-Disaster-Planning-Workbook.cfm

An integral part of disaster planning is where to relocate the office. There should be multiple plans based on the likely size of the problem.



“
HELPING PATIENTS
THROUGH
DISRUPTIONS IN
SERVICE RELATED
TO A DISASTER
CAN BE VIEWED AS
A PART OF ‘FIRST,
DO NO HARM.’
PATIENT-RELATED
INTERVENTIONS
SHOULD BE PART OF
PATIENT TEACHING
AND GO PAST
MERELY HOW TO
STAY IN TOUCH WITH
THE DOCTOR.

”

Although EHRs and patient portals may alleviate some of this problem, there is still likely to be a lead time between the time of the disaster and when these become available again. Heptulla suggests that patients keep insulin pump settings, insulin types and dosages, and similar information readily available.

“The Federal Emergency Management Agency (FEMA) suggests those with chronic illnesses have three days of medical supplies at hand,” she says. “My personal suggestion would be five to seven days since it could take a while for deliveries to be made or drug stores to reopen. Medications, testing strips, and other required essentials should be put into an emergency kit that you can get to quickly.”

She notes that the American Diabetes Association has a suggested emergency kit, and you can get more general checklists through your local emergency management agency or the FEMA website. Most disasters happen during a season so it makes sense to update your patient’s plan and kit a month or two before they are likely to be needed.

Although it may seem daunting, planning for a calamity can be fairly easy.

“There are a lot more problems related to not having a plan than there are to setting one up,” Dahl says. “Your affiliated hospital may have an emergency planner that they can make available to the practice. Your local and state emergency management agencies are more than happy to assist in both initial and ongoing planning. You can go to FEMA’s website and pull up checklists that can help you get your responses ready quickly.” ^{EN}

ULLMAN, RN, MHA, IS AN INDIANA-BASED FREELANCE WRITER WITH NEARLY 30 YEARS OF EXPERIENCE. HE WROTE ABOUT ENDOCRINE NURSES IN THE JULY ISSUE.



Type 1 Diabetes

An Accurate Diagnosis Requires The Right Tools

- Glutamic Acid Decarboxylase Autoantibody (GADAb)
- Zinc Transporter 8 Autoantibody (ZnT8Ab)
- IA-2 Autoantibody (IA-2Ab)
- Insulin Autoantibody (IAA)

...The Immunologic Markers of Choice for the Differential Diagnosis and Management of Type 1 Diabetes

KRONUS offers test kits for the measurement of autoantibodies to four key autoantigens - **glutamic acid decarboxylase (GAD), zinc transporter 8 (ZnT8), IA-2 and insulin** - for assessment of the immune process associated with Type 1 diabetes. Generally present and measurable several years **prior to the clinical onset of disease**, the measurement of GAD, ZnT8, IA-2 and insulin autoantibodies can help identify individuals at-risk and provide essential information with regards to the autoimmune progression of diabetes.

To obtain additional information on KRONUS' DIABETES ANTIBODY TEST KITS, please call us toll-free at **800 4 KRONUS** or visit us at our web site at www.kronus.com.



Endocrine Society Influences EDC Policy Around the World



Jean Pierre Bourguignon, MD, PhD, delivers a statement on behalf of the Society during the plenary of the International Conference on Chemicals Management in Geneva, Switzerland.

During September and October, the Society participated in two important international meetings related to endocrine-disrupting chemicals (EDCs). The Society was the only scientific organization participating, and, as such, it was able to share the Society's latest scientific statement on EDCs and link health impacts to EDCs, and was seen as a trusted policy advisor.

ES Members Advise United Nations Environment Programme on EDCs

On September 25 and 26, the Endocrine Society participated in a meeting of the United Nations Environment Programme (UNEP) Advisory Group on the Environmental Exposure and Impact of Endocrine Disrupting Chemicals (EDCs). The EDC Advisory Group was established in May 2014 to "provide strategic and policy advice on approaches related to the implementation of the UNEP's activities concerning environmental exposure and impact of EDCs." Endocrine Society members Jean-Pierre Bourguignon MD, PhD, and Riana Bornman, MD, DSc, were invited to participate in the meeting based on their expertise on EDCs.

During the meeting, participants heard updates on global EDC-related activities and the UNEP introduced a project document on EDCs. The project proposes to focus on the following five activities:

1. Overview reports focusing on existing knowledge on exposure, legislation, measures, and gaps regarding EDCs
2. Situation and gap analysis reports on methodologies and tools for environmental hazard and risk assessment, and environmental exposure assessment of EDCs

3. Annual meetings for information exchange about specific topics to be addressed through intergovernmental collaboration
4. Awareness-raising materials and a region-specific awareness-raising campaign
5. Draft project proposals for case studies with developing and transition countries in multiple UN regions, to assess and manage EDC exposures in those countries

Participants also reviewed and gave feedback on a draft set of awareness-raising materials commissioned by the UNEP, consisting of a brochure and infographics on EDCs. The aim of the awareness-raising materials is to educate specific audiences on how to reduce environmental exposures to EDCs in common settings. The Endocrine Society hopes to work with the UNEP to raise awareness of EDCs globally and looks forward to continued engagement as the UNEP implements the EDC project.


EDC Resolution Adopted at ICCM4

From September 28 through October 2, the Endocrine Society participated in the 4th International Conference on Chemicals Management (ICCM4) in Geneva, Switzerland. The Conference is the decision-making body of the Strategic Approach to International Chemicals Management (SAICM), a policy framework to promote chemical safety worldwide. The following members represented the Society throughout the conference: Jean-Pierre Bourguignon MD, PhD, Leonardo Trasande, MD, Riana Bornman MD, DSc, and Richard Ivell PhD.

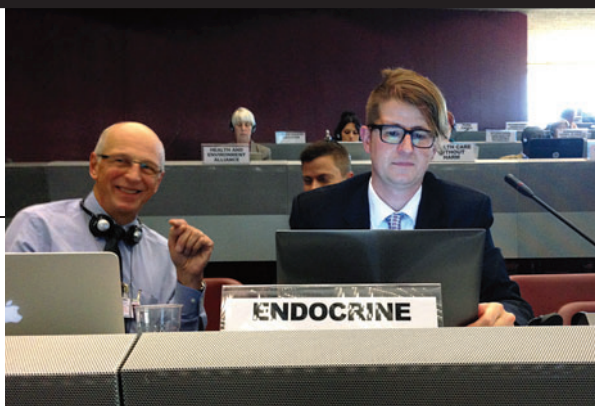


It's Time for Congress to Focus on Diabetes

With nearly 30 million Americans living with diabetes and 86 million more at risk of developing diabetes, you might expect diabetes to be a top priority for Congress. But it's not. That's why members of Congress need to hear from us. In fact, it's been five years since the last congressional hearing on diabetes and during that time the disease has continued to exact a significant human toll.

It's vital that we make diabetes top-of-mind for our members of Congress and get them to focus on policies and legislation that would help people with diabetes and those at risk. The Endocrine Society is working with the broad diabetes community — patient advocacy groups, researchers, other providers, and caregivers — to urge Congress to hold a hearing on diabetes on Capitol Hill in November. A hearing would give the diabetes community the opportunity to make our voices heard and promote specific pieces of diabetes legislation. And we need your help! Send your member of Congress a letter asking him or her to support a hearing to bring attention to current diabetes legislation by going to endocrine.org/advocacy. 

Leonardo Trasande, MD, speaking at the International Conference on Chemicals Management in Geneva, Switzerland, on behalf of the Society, spoke of the importance for worldwide chemical safety.



During the plenary sessions of the conference, Endocrine Society members delivered statements describing the key endocrine principles that should be taken into account as national and international regulatory bodies develop strategies to reduce harms associated with exposure to EDCs through various sources. Trasande also participated in a panel discussion during the conference and delivered a presentation titled “Costs of Inaction — Endocrine Disrupting Chemicals, Disease, and Disability.” Society members also contributed to a resolution on EDCs, which was introduced and subsequently adopted by the conference. The resolution represents broad consensus agreement by the conference on several important points that are consistent with the Endocrine Society’s positions on EDCs, including:

- Evidence in humans, laboratory animals, and wildlife shows that exposure to EDCs can result in adverse effects;
- The most critical window of exposure is during development;
- Exposure during early life stages can result in adult-onset disease, and an important focus should be on reducing exposure;
- There is a “cost of inaction” associated with EDCs exposure;
- Continued actions on EDCs by all stakeholders will be needed in order to attain the objectives of the Strategic Approach; and
- The World Health Organization – UNEP 2012 State of the Science report is authoritative and should be utilized by governments.

ICCM4 participants included representatives from over 100 governments worldwide alongside over 70 nongovernmental organizations representing diverse stakeholder interests. The conference was an important opportunity to advance the Society’s positions on EDCs and raise awareness among all stakeholders of the Society’s second Scientific Statement on EDCs and other resources.

The EDC resolution is a major accomplishment, and Endocrine Society members made substantial contributions during the conference plenary and various small-group sessions that led to the final text of the resolution. The Endocrine Society will continue to support SAICM in pursuit of its overall objective of “sound management of chemicals throughout their life cycle so that, by 2020, chemicals are produced and used in ways that minimize significant adverse impacts on human health and the environment.”

Endocrine Society Releases Scientific Statement on EDCs

According to an upcoming Endocrine Society Scientific Statement, emerging evidence ties endocrine-disrupting chemical (EDC) exposure to two of the biggest public health threats facing society — diabetes and obesity.

The statement builds upon the Society's groundbreaking 2009 report, which examined the state of scientific evidence on EDCs and the risks posed to human health. In the ensuing years, additional research has found that exposure is associated with increased risk of developing diabetes and obesity. Mounting evidence also indicates EDC exposure is connected to infertility, hormone-related cancers, neurological issues, and other disorders.

Known EDCs include bisphenol A (BPA) found in food can linings and cash register receipts, phthalates found in plastics and cosmetics, flame retardants, and pesticides. The chemicals are so common that nearly every person on Earth has been exposed to one or more. An economic analysis published in *The Journal of Clinical Endocrinology & Metabolism* in March estimated that EDC exposure likely costs the European Union €157 billion (\$209 billion) a year in actual healthcare expenses and lost earning potential.

The Scientific Statement also examines evidence linking EDCs to reproductive health problems, hormone-related cancers such as breast and ovarian cancer, prostate conditions, thyroid disorders, and neurodevelopmental issues. Although many of these conditions were linked to EDCs by earlier research, the number of corroborating studies continues to mount.



The statement also addresses the need to recognize EDCs as an international problem. Society members met in Geneva for the fourth session of the International Conference on Chemicals Management (ICCM4) in late September. Attending members, including Jean-Pierre Bourguignon, MD, PhD, professor of pediatrics at the University of Liège in Belgium, emphasize key principles of endocrinology that are confirmed by recent research need to be taken into account when developing policies for identifying and regulating EDCs.

Other authors of the Scientific Statement include: Vesna Chappell and Suzanne E. Fenton of the National Institutes of Health's National Institute of Environmental Health Sciences in Research Triangle Park, N.C.; Jodi A. Flaws of the University of Illinois at Urbana-Champaign in Urbana, Ill.; Angel Nadal of the Institute of Bioengineering and CIBERDEM at Miguel Hernandez University of Elche in Elche, Alicante, Spain; Gail S. Prins of the University of Illinois at Chicago; Jorma Toppari of the University of Turku and Turku University Hospital in Turku, Finland; and R. Thomas Zoeller of the University of Massachusetts in Amherst.

"Executive Summary to EDC-2: The Endocrine Society's Second Scientific Statement on Endocrine-disrupting Chemicals," was published online in *Endocrine Reviews*.



Society Participates at EndoBridge 2015 in Turkey

At the recent EndoBridge 2015, endocrinologists from around the world gathered in Antalya, Turkey, from October 15 to 18, to share information on the full spectrum of endocrinology with programs on everything from diabetes and lipid disorders to genetic causes of pituitary tumors and personalized menopause management. Pictured: Society president Lisa Fish, MD (far right) with Society members (l to r) Jens Bollerslev, MD, professor at Rikshospitalet Meidcal Center, Oslo, Norway; Bulent Okan Yildiz, MD, professor of medicine and endocrinology at Hacettepe University School of Medicine, Ankara, Turkey; and M. Sait Gonen, MD, a professor at Selcuk University, Konya, Turkey, who answered questions about acromegaly, diabetes, and treatment differences around the world.



Abstract Travel Awards Available for ENDO 2016

ENDO 2016 Preconference Event

The Early Career Forum provides student, fellow, and postdoc members an in-depth look at career opportunities in endocrinology and the skills needed to be successful in each field. Don't miss your chance to receive a travel award to attend this motivating ENDO event. This Forum will be held on Thursday, March 31, 2016, from 8:00 AM – 6:00 PM at the Boston Convention & Exhibition Center. The application deadline is **Wednesday, November 18, 2015**.

Research Fellowship Awards

The Society offers **Research Fellowship Awards** that provide generous support for students and fellows who demonstrate promising careers in endocrinology. More information can be found at: www.endocrine.org/fellowship.

Early Investigators Awards

The **Early Investigators Awards** recognize and honor early career professionals for their outstanding accomplishments in endocrine research. For details, go to: www.endocrine.org/eia.

Each year the Endocrine Society offers a number of travel awards to young researchers and early career endocrinologists to allow them to attend ENDO.

The abstract applications opened Wednesday, September 9, and are due before **Tuesday, November 10, by 1:00 PM EST** to be considered.

Below are the abstract-based travel awards being offered for ENDO 2016:

- ▶ **EUGENIA ROSEMBERG ABSTRACT TRAVEL AWARD**
These travel grants are awarded to outstanding abstracts submitted by early career professionals in a basic science category.
Supported by the Eugenia Rosemberg Memorial Fund
- ▶ **MARA E. LIEBERMAN MEMORIAL TRAVEL GRANTS**
These travel grants are awarded to outstanding abstracts submitted by women.
Supported by the Mara E. Lieberman Memorial Fund
- ▶ **ENDOCRINE SOCIETY OUTSTANDING ABSTRACT AWARDS**
These travel grants are awarded to abstracts submitted by in-training post-doctoral fellows, new faculty, or graduate students. Preference is given to members of the Endocrine Society.
Supported by the Endocrine Society
- ▶ **MINORITY TRAVEL AWARD: FLARE ENDO TRAVEL AWARD**
This award is part of the FLARE Program, which is open to senior graduate students, post-doctoral fellows, and clinical fellows.
Supported by a grant from the National Institute of Diabetes and Digestive and Kidney Diseases and the Endocrine Society

Derek Bagley Recognized for *Endocrine News* Article




The April 2015 *Endocrine News* cover story “Deep Impact,” written by associate editor Derek Bagley, was named a finalist for a prestigious 2015 Eddie Award.

Bagley’s article was an in-depth examination of the possible effects that fracking has on causing endocrine-disrupting chemicals (EDCs) to seep into local water supplies. In the article, Bagley wrote that hundreds of chemicals are used in fracking and many are known EDCs. However, the article concluded that future studies are needed to conclusively prove the danger of fracking on the endocrine system.

“This recognition for Derek’s work is truly momentous for *Endocrine News* as well as the Endocrine Society,” says Mark A. Newman, editor, *Endocrine News*. “It shows that the direction we’ve been taking the magazine in the past several years is not going unnoticed. Aside from the remarkable redesign in the last few months, the content itself has been evolving. Since joining the Society over two years ago, I’ve been continually impressed with the caliber of writers we have who create these wonderful narratives to our members’ benefit. I’m very pleased that one of our own has been singled out, which further demonstrates that *Endocrine News* is a serious contender in the medical journalism realm.”

In the future, Newman says, he wants more coverage of members, their accomplishments, goals, and everyday lives as endocrinologists. “At the heart of *Endocrine News* are the members of the Endocrine Society,” he says. “And we want to take full advantage of the deep well of expertise available to us. After all, the magazine is for the members and we have a responsibility to serve them the best way we can.”

“Deep Impact” was competing in the Best Single Article in a Magazine Published by an Association or Not-for Profit category. Other association magazine finalists were *Chemical & Engineering News* (American Chemical Society), *Dermatology World* (American Academy of Dermatology), *HR Magazine* (Society for Human Resource Management), *Marketing News* (American Marketing Association), and *Professional Photographer* (Professional Photographers of America).

This is the first time *Endocrine News* has been singled out for its journalistic endeavors in its 10-plus year history. But, Newman promises, it won’t be the last. 



Society Publishes Clinical Practice Guideline on Treating Menopause

The Endocrine Society issued a Clinical Practice Guideline (CPG) on identifying women who are candidates for treatment of menopausal symptoms and selecting the best treatment options for them.

“Treatment of Symptoms of Menopause: An Endocrine Society Clinical Practice Guideline,” was published online and will appear in the November 2015 print issue of *The Journal of Clinical Endocrinology & Metabolism (JCEM)*.

In the CPG, the Endocrine Society recommends that women with a uterus who decide to undergo menopausal hormone therapy with estrogen and progestogen be informed about risks and benefits, including the possible increased risk of breast cancer during and after discontinuing treatment. Healthcare providers should advise all women, including those taking menopausal hormone therapy, to follow guidelines for breast cancer screening.

Members of the Endocrine Society task force that developed this CPG include: Cynthia A. Stuenkel, MD, task force chair, University of California, San Diego; Susan R. Davis of Monash University in Melbourne, Australia; Anne Gompel of the Université Paris Descartes in Paris, France; Mary Ann Lumsden of the University of Glasgow School of Medicine in Glasgow, Scotland; M. Hassan Murad of the Mayo Clinical in Rochester, Minn.; JoAnn V. Pinkerton of the University of Virginia in Charlottesville, Va.; and Richard J. Santen of the University of Virginia Health System in Charlottesville, Va.

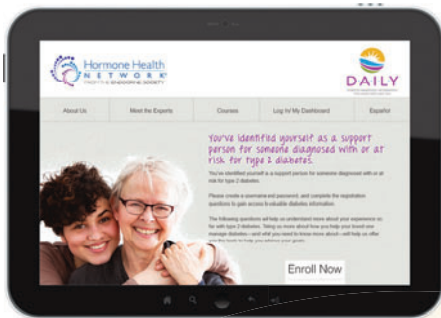
This CPG was co-sponsored by the Australasian Menopause Society, British Menopause Society, European Society of Endocrinology, and the International Menopause Society and was published online at <http://press.endocrine.org/doi/10.1210/jc.2015-2236>.

DAILYDIABETES.ORG

LAUNCHING NOVEMBER 2015

D.A.I.L.Y. (DIABETES AWARENESS INFORMATION FOR LOVED ONES AND YOU) IS A NEW DIGITAL INTERACTIVE DIABETES EDUCATION TOOL FROM THE HORMONE HEALTH NETWORK.

This online platform is a multi-funded initiative to engage, activate and educate people with type 2 diabetes and members of the diabetes community to improve their knowledge, skills and confidence, enabling them to take increasing control of their own condition and integrate effective self-management strategies into their daily lives.

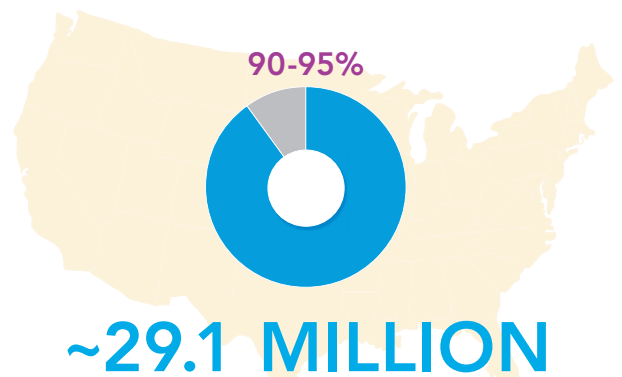


Currently, there is no online support community for type 2 diabetes patients and their families that focuses on how diabetes affects the entire family

and how patients can take an active role in managing their diabetes care. D.A.I.L.Y. will build a community of type 2 diabetes patients by providing access to experts who can address the full spectrum of issues for those newly diagnosed or living with diabetes, and those with diabetes complications.

D.A.I.L.Y. will offer a selection of courses focusing on topics ranging from the emotional components of diabetes; strategies for managing type 2 diabetes; and understanding treatment options (supported by Boehringer Ingelheim and Lilly Diabetes Alliance, and Janssen Pharmaceuticals). Each course will include assessments, videos, fact sheets, patient stories, case studies, and peer-to-peer resources.

D.A.I.L.Y. ADDRESSES A MAJOR HEALTH THREAT IN OUR COUNTRY TODAY:



APPROXIMATELY 29.1 MILLION PEOPLE HAVE DIABETES AND TYPE 2 DIABETES ACCOUNTS FOR 90% TO 95% OF DIAGNOSED CASES OF DIABETES IN ADULTS, ACCORDING TO THE CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC).¹

7 MILLION

ANOTHER 7 MILLION PEOPLE HAVE TYPE 2 DIABETES AND DON'T EVEN KNOW IT, ACCORDING TO THE ENDOCRINE SOCIETY.²



ONE OUT OF THREE PEOPLE WILL DEVELOP TYPE 2 DIABETES AT SOME POINT IN THEIR LIFETIME.³

D.A.I.L.Y. RESPONDS TO THIS SOCIAL AND HEALTH ISSUE AND FOCUSES ON INSPIRING AMERICANS WITH DIABETES TO TAKE CONTROL OF THEIR CONDITION.



D.A.I.L.Y. ALSO PROVIDES TIPS FOR LOVED ONES TO SUPPORT PEOPLE WITH DIABETES, AND ULTIMATELY, IMPACT THE FUTURE HEALTH OF MILLIONS OF AMERICANS.



D.A.I.L.Y. GOALS

Enroll individuals from diverse patient populations, particularly:

- Patients and caregivers who struggle with managing diabetes
- Individuals who are effective managers seeking additional resources and tips
- Detached patients who don't want to "deal" with their diabetes because they feel "fine" now and may be unaware of how their diabetes can change over time
- Elderly patients whose diabetes is complicated by other comorbidities

Empower patients, through a unique platform, with the day-to-day skills, strategies and resources necessary to live their best life possible with type 2 diabetes.

Increase patient adherence for better outcomes — and the ability to track each patient's journey.

Create an online community for D.A.I.L.Y. members to provide ongoing peer-to-peer support and encouragement and use existing HHN social media to augment the community.

Equip healthcare providers with D.A.I.L.Y. patient resources.

REFERENCES

¹National Diabetes Statistics Report. Centers for Disease Control and Prevention, 2014. <http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf>

²Endocrine Society. *Endocrine Facts and Figures: Diabetes. First Edition.* 2015.

³Diabetes in the United States. Centers for Disease Control and Prevention. www.cdc.gov/diabetes/prevention.

INTRODUCING OUR D.A.I.L.Y. EXPERT PANEL



"Get tips to share with family and friends. Enroll in this unique diabetes management program and gain access to tools that can be used to communicate better with your healthcare team and loved ones."

-M. Carol Greenlee, MD, FACE, FACP



"Created by experts for you. Developed by endocrinologists. As the leading experts in diabetes treatment, endocrinologists helped to develop program content to ensure patients and their loved ones receive the most trusted information. Meet the experts."

-David Saxon, MD



"Ready when and where you are. One hundred percent online and works on your computer or any mobile device. Navigate through the program all at once, or take a break and pick up where you leave off with our easy dashboard tool."

-William H. Polonsky, PhD



"It's your diabetes journey. Take an active role in your diabetes management. Our program provides resources that are tailored to individual patients' needs and that can be shared with health care professionals to encourage a collaborative approach to diabetes management."

-T. Sean Vasaitis, PhD

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University of California
San Francisco



School of Medicine
Fresno Medical Education Program



UCSF FRESNO ENDOCRINOLOGIST OPPORTUNITY

UCSF Fresno and the Central California Faculty Medical Group (CCFMG) are recruiting for an Endocrinologist at the Assistant Clinical Professor level or higher. The successful candidate will provide Endocrine services in a teaching program, will teach residents and students in Endocrinology, and will see patients in a faculty practice. Applicants should be board certified in Internal Medicine and board certified or eligible in Endocrine, have completed their residency in Internal Medicine and fellowship in Endocrinology, be able to obtain a U.S. medical license, have clinical experience, be willing to actively participate in medical education, and have experience and interest in clinical research. The UCSF Fresno Medical Education Program sees patients in a Regional Medical Center and has very successful faculty practice sites.

The program is based in Fresno, California, where residents enjoy a high standard of living combined with a low cost of living. The result is a quality of life uniquely Californian, yet surprisingly affordable. Limitless recreational opportunities and spectacular scenery is all accessible in a community with abundant affordable housing. While there is much to see and do in Fresno, the city is ideally located for fast, convenient getaways to the majestic Sierra (just 90 minutes away) as well as the scenic Central Coast, just two and one-half hours away. Fresno is the only major city in the country with close proximity to three national parks, including renowned Yosemite National Park.

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<https://aprecruit.ucsf.edu/apply/JPF00297>

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ACADEMIC ENDOCRINOLOGIST AND/OR GENETICIST

The Bone Disorders and Osteogenesis Imperfecta Clinic at Kennedy Krieger Institute is seeking an Academic Endocrinologist and/or Geneticist at the Instructor or Assistant Professor level who is board-certified or board-eligible in endocrinology and/or genetics (adult and/or pediatric). In addition to clinical work focused on a wide variety of genetic and metabolic bone disorders, this position provides the opportunity for clinical, translational, and/or basic research in a highly collaborative academic setting. Faculty appointments are through the Kennedy Krieger Institute and the Johns Hopkins University School of Medicine.

The Kennedy Krieger Institute in Baltimore, MD, is an internationally recognized institution dedicated to improving the lives of individuals with disorders of the brain, spinal cord, and musculoskeletal system. Our innovative research is leading the way in the understanding, prevention, and treatment of a wide range of developmental disabilities.

The Kennedy Krieger Institute offers outstanding benefits, including a tuition grant for dependent children and tuition remission at Johns Hopkins University for faculty, spouses and dependent children.

Requirements:

- Board-certified or Board-eligible in Endocrinology and/or Genetics: Adult and/or Pediatric
- Must have experience with bone disorders

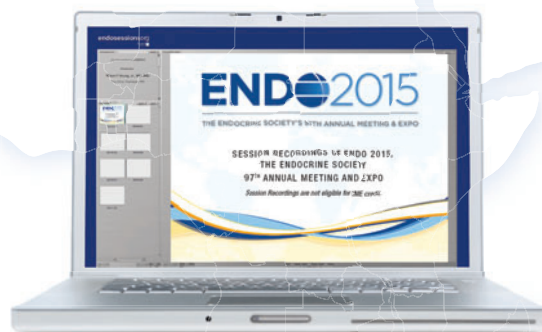
Tina M. Schmitt, PHR, CHCR, SHRM-CP
HR Recruitment Manager, Kennedy Krieger Institute, (443) 923-5815

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