American Association of Clinical Endocrinologists
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News Release
EMBARGOED UNTIL MAY 4, 2017
AT 8:30 A.M., CT

Contact: Mary Green
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Provocative Evidence of Bone Acting As Endocrine Organ Presented at American Association of Clinical Endocrinologists 26th Annual Congress

AUSTIN, Texas – (May 4, 2017) – A preeminent genetic researcher whose studies are profoundly altering thinking about the biology of bone and its possible role as an endocrine organ impacting whole-body physiology opened the American Association of Clinical Endocrinologists' (AACE) 26th Annual Scientific and Clinical Congress today with a summary of his research findings.

Gerard Karsenty, MD, PhD, professor and chair of the Department of Genetics and Development at Columbia School of Medicine, highlighted laboratory research that supports his long-standing hypothesis that the control of bone mass and energy metabolism is coordinated and that this coordination is done in large part by hormones that originate in bone.

Dr. Karsenty and his team of researchers have discovered through a series of experiments in mice that osteocalcin – a hormone made only in the bone cells that continuously build new bone (osteoblasts) – not only acts locally to influence bone formation, but also increases the production of insulin in the pancreas, raises the body's sensitivity to insulin and reduces stores of fat, playing a crucial role in regulating blood sugar.

Additional studies found that male mice that did not produce osteocalcin had abnormally low levels of testosterone and were sterile. Mice that produced high levels of osteocalcin, however, had more testosterone and bred more frequently, suggesting that bones play a crucial role in male reproduction.

More recently, Dr. Karsenty's work suggests that osteocalcin crosses the blood-brain barrier and affects cognitive function. Mice that were engineered to be osteocalcin-deficient showed signs of increased anxiety and depression-like behaviors, as well as impaired memory and learning, compared to normal mice. However, when infused with osteocalcin, their moods improved and spatial memory and learning was improved.

While it remains to be seen how the study findings can be translated into relevant human therapies, the discovery of osteocalcin's influence on body processes has significant implications for multiple conditions.

Dr. Karsenty will discuss highlights of his presentation during a press briefing on Thursday, May 4th, from 12:30 p.m. to 1:30 p.m.at the AACE Annual Congress Press Room, Austin Convention Center, Level 4, Room 14.

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Ramadan Fasting Presents Unique Diabetes Management Challenges
Says Presenter at American Association of Clinical Endocrinologists Congress

AUSTIN, Texas – (May 4, 2017) – While cultural considerations are part and parcel of optimal diabetes care around the world, there is one group in particular whose disease management requires special attention, cautioned an endocrinologist presenting at today at the American Association of Clinical Endocrinologists 26th Annual Scientific and Clinical Congress.

Citing statistics from the CREED study in his presentation *"Personalized Diabetes Management: Cultural Considerations,"* Dr. Osama Hamdy, Director of the Inpatient Diabetes Program at Joslin Diabetes Center, noted that 94.2 percent of Muslims with diabetes fasted for at least half of the month during the holy month of Ramadan and two-thirds fasted every day.

The time frame for Ramadan fasting, which includes no foods or fluids, begins at sunrise following Suhūr (the meal consumed pre-dawn) and concludes at sunset with Iftar, the meal served at the end of the day. Summer fasting periods can last up to 20 hours per day and are often undertaken in hot and humid conditions, which can further exacerbate risks associated with the fasting, which can include hypoglycemia, hyperglycemia, dehydration and thrombosis, and diabetic ketoacidosis.

Dr. Hamdy suggested that pre-Ramadan diabetes education is necessary to avoid complications in those who insist on fasting and should focus on six areas: risk quantification; blood glucose monitoring; fluids and dietary advice; exercise advice; adjusting treatment regimens; and when to break the fast. Trial fasting is also recommended to detect hypoglycemia or hyperglycemia risk.

He further noted that very few patients with type 2 diabetes who were on insulin could safely fast during Ramadan and thus will need adjustments of their insulin doses and/or timings to allow for a greater number of fasting days without acute complications.

Dr. Hamdy will discuss highlights of his presentation during a press briefing on Thursday, May 4, at 12:30 p.m. at the AACE 26th Annual Scientific and Clinical Congress.

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Introduction of New Cardiovascular "Extreme Risk" Category, Clinical Guidelines Validated at Summit of International Endocrinologists

AUSTIN, Texas. – (May 4, 2017) – Dyslipidemia management experts speaking today at the American Association of Clinical Endocrinologists' 26th Annual Scientific and Clinical Congress highlighted the patient benefits of recently introduced clinical guidelines, the *American Association of Clinical Endocrinologists and American College of Endocrinology Guidelines for Management of Dyslipidemia and Prevention of Cardiovascular Disease*, which recommend more intense treatment and intervention.

Using case-based evidence in their "Meet the Experts" workshop, presenters Dr. Paul Jellinger and Dr. Yehuda Handelsman underscored the application of more aggressive treatment for reduction of low-density lipoprotein cholesterol (LDL-C) in patients with progressive ASCVD who have achieved an LDL under 70; those with established ASCVD and diabetes, stage 3 or 4 kidney chronic kidney disease, or heterozygous familial hypercholesterolemia; and those with a history of premature cardiovascular disease, all of whom are categorized in a newly introduced cardiovascular "extreme risk" category. Treatment goals for patients in the extreme risk category include LDL cholesterol <55mg/dL, non-HDL cholesterol <80mg/dL, and ApoB <70mg/dL.

Their presentation also highlighted the value of coronary artery calcium (CAC) score and inflammatory markers to stratify risk.

The groundbreaking guidelines further provide an assessment of the value of adding ezetimibe and PCSK9 inhibitors in patients with cardiovascular disease who are unable to reach LDL cholesterol goals with statin therapy; screening for cardiovascular risk in female patients using the Reynolds Risk Score or the Framingham Risk Assessment Tool; and special guidance for the diagnosis and management of dyslipidemia in children and adolescents as early as possible to decrease the long-term risk of adult cardiovascular events (See Risk Stratification Chart below).

"While suggestive evidence pointed in the direction of better outcomes with more aggressive LDL treatment, the IMPROVE-IT trial was the first prospective demonstrated clearly that driving LDL down to 53 provided a clear, significant benefit in reducing cardiovascular outcomes in high-risk groups," noted Dr. Jellinger."By expanding the group of patients studied in IMPROVE-IT to other very high-risk situations, our knowledge base expanded considerably, leading to the creation of the new risk category, a broader range of disease stages, and the accompanying groundbreaking treatment and intervention recommendations." (See chart below).

Atherosclerotic Cardiovascular Disease Risk Categories and Low-Density Lipoprotein Treatment Goals				
Risk category	**Risk factors[a]/10-year risk[b]**	**Treatment goals**		
		LDL-C (mg/dL)	**Non-HDL-C (mg/dL)**	**Apo B (mg/dL)**
Extreme Risk	– Progressive ASCVD including unstable angina in patients after achieving an LDL-C <70 mg/dL – Established clinical cardiovascular disease in patients with DM, CKD 3/4, or HeFH – History of premature ASCVD (<55 male, <65 female)	<55	<80	<70
Very High Risk	– Established or recent hospitalization for ACS, coronary, carotid or peripheral vascular disease, 10-year risk >20% – Diabetes or CKD 3/4 with 1 or more risk factor(s) – HeFH	<70	<100	<80
High Risk	– ≥2 risk factors and 10-year risk 10%-20% – Diabetes or CKD 3/4 with no other risk factors	<100	<130	<90
Moderate Risk	≤2 risk factors and 10-year risk <10%	<100	<130	<90
Low Risk	0 risk factors	<130	<160	NR

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News Release
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Contact: Mary Green
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Heart Failure as Type 2 Diabetes Complication Deserves More Scrutiny, Panel of Endocrinologists Declares

AUSTIN, Texas. – (May 5, 2017) – While much attention is given to the microvascular effects of type 2 diabetes (T2D) – diabetic retinopathy, kidney disease, nerve damage – and the macrovascular consequences that include stroke, heart attacks and peripheral vascular disease, there is a seventh and more sinister complication of diabetes that demands greater attention: heart failure leading to increased mortality.

That was the message delivered today by a trio of specialists during an in-depth symposium presented at the American Association of Clinical Endocrinologists' 26th Annual Scientific and Clinical Congress.

In the session "*Heart Failure: The Frequent, Forgotten and Often Fatal Complication of Type 2 Diabetes*," Dr. David S.H. Bell, who has performed clinical trials on the effects of angiotensin II receptor blockers (ARBs) in diabetes patients with diastolic dysfunction, suggested the available evidence should propel endocrinologists to become more rigorous in screening for the complication with symptomatic patients and consider treating it to mitigate the poor outcomes often seen in these patients.

"It's not widely realized how common this condition is," Dr. Bell noted. "Somewhere between 40 and 45 percent of people in this country with diabetes suffer heart failure versus 12 percent of non-diabetics. And depending on the degree of glycemic control, the worse the mortality is."

He highlighted studies that examined the complex effect of diabetes and contributing factors to the three causes of the heart failure, including coronary artery disease, left ventricular hypertrophy (LVH, which occurs in approximately 65 percent of people with type 2 diabetes), and diabetic cardiomyopathy, a distinct pathology that is closely associated with the microvascular complications of the diabetes, and advocated for

Paradoxically, while anti-heart failure therapies such as angiotensin-converting-enzyme inhibitors and others work similarly well in individuals with diabetes as compared to those without the disease, the glucose-lowering drug dipeptidylpeptidase-4 (DPP4) inhibitors saxagliptin has been found to cause an increase in heart failure in diabetes patients, said the second presenter of the session, researcher Dr. Richard E. Gilbert, PhD, FRCPC.

Considered an expert in the knowledge of kidney disease and diabetes as major, independent risk factors for the development of heart failure, Dr. Gilbert highlighted the relation between glycemic control and heart failure risk, focusing on the state of knowledge regarding the detrimental and beneficial effects of the various types of anti-hyperglycemic drugs.

Dr. Aaron Vinik, PhD, FCP, MACP, FACE, presented details regarding his research on autonomic neuropathy, one of the most overlooked T2D complications contributing to the high incidence of heart failure in the diabetic patients, in which damage to the body's blood vessels extends to those involuntary nerves that stimulate the heart and blood vessels, resulting in heart rate and vascular abnormalities.

Autonomic system dysfunction is a predictor of cardiovascular risk and sudden death in T2D patients, but also occurs in prediabetes, and thus offers opportunities for early intervention, Dr. Vinik noted. Important advances in technology during the past decade now make it possible to identify these early stages of autonomic dysfunction with the use of objective standardized measures, allowing earlier intervention when reversal of the condition is still possible.

Dr. Bell, Dr. Gilbert and Dr. Vinik will discuss highlights of their session presentation during a press briefing on Friday, May 5th, from 12:15 p.m. to 1:15 p.m. at the AACE Annual Congress Press Room, Austin Convention Center, Level 4, Room 14.

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Adrenal Disorders Experts Address Rare Conditions and Their Treatment
At American Association of Clinical Endocrinologists Scientific and Clinical Congress

AUSTIN, Texas – (May 5, 2017) – A trio of experts speaking today at the American Association of Clinical Endocrinologists 26th Annual Scientific & Clinical Congress shared their in-depth knowledge about adrenal conditions that are relatively uncommon compared to other endocrine system disorders and also can be among the most challenging to identify and treat.

The presentation, "*Innovations in Evaluation and Management of Adrenal Diseases*," highlighted Cushing's syndrome, an excess of the hormone cortisol in the blood usually caused by a tumor; adrenocorticol carcinoma, a rare and deadly disease in which malignant cells form in the outer layer of the *adrenal* gland; and adrenal function in critically ill patients.

Dr. Lynette Nieman, an active clinical investigator and Chief of the Endocrinology Consultation Service at the National Institutes of Health Clinical Center, has seen more than 1,000 patients with Cushing's syndrome at the NIH. Cushing's is a debilitating endocrine disorder characterized by excessive cortisol levels in the blood. She underscored the challenges not only in diagnosing Cushing's syndrome – which can include potential drug and hormone interference, and false negatives or positives in testing and imaging studies – but also the importance of an individualized patient treatment plan to address the long-term affects and comorbidities associated with hypercortisolism.

In discussing the distinction between relatively common benign tumors of the adrenal cortex and adrenocorticol carcinoma (ACC), an ultra-rare endocrine malignancy that forms in the outer layer of the adrenal gland and has usually metastasized to other parts of the body by the time it is diagnosed, world-renowned adrenal cancer specialist Dr. Gary Hammer noted that most doctors – including endocrinologists – have never seen a case of adrenocortical carcinoma. As such, the challenge is needing to know when to be concerned, particularly since the signs and symptoms induced by a tumor's effect on adrenal production of key hormones – high blood pressure, weight gain and diabetes – are among the most common symptoms in Western society.

As Director of the Endocrine Oncology Program at the University of Michigan's Comprehensive Cancer Center, Dr. Hammer and his colleagues are collaborating with clinicians, researchers and institutions around the world to unravel the genetics of the disease with the goal of creating therapies that target the molecular defects of ACC. Currently,

Dr. Amir H. Hamrahian, Professor of Medicine and Chief of the Department of Endocrinology at Cleveland Clinic Abu Dhabi, highlighted the complex condition of adrenal insufficiency (AI) in critically ill patients.

Noting the limitations of currently available diagnostic tools as well as the lack of consensus on what constitutes normal adrenal function in critically ill patients, he nonetheless recommended the use of random cortisol and free cortisol levels as the primary evaluation tool with these patients.

Presenters from "*Innovations in Evaluation and Management of Adrenal Diseases*," will discuss details of their presentations in a press briefing on Friday, May 5, at 12:15 p.m. at the AACE 26th Annual Scientific and Clinical Congress.

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News Release
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Aging Patients' Endocrine Medical Issues Addressed at American Association of Clinical Endocrinologists Congress Symposium

AUSTIN, Texas – (May 6, 2017) –Despite the improvements in healthcare that have led to longer and considerably healthier life spans, the march of time is inevitable. And chief among the changes in aging individuals are endocrine system maladies that require nuanced treatment, a panel of experts said today at the American Association of Clinical Endocrinologists 26th Annual Scientific and Clinical Congress.

During "*The Aging Patient: Endocrinology for the Ages,"* presenter Dr. M. Sue Kirkman, a clinical investigator for numerous diabetes therapies trials and a frequent author on the topic of diabetes in the elderly, noted that more than 25 percent of the U.S. population aged 65 years and older has the disease and with it a substantially higher risk for developing both acute and chronic microvascular and cardiovascular diabetes complications.

The unique challenges in treating such patients Dr. Kirkman said, are multi-faceted. Older adults are routinely excluded from randomized controlled treatment trials, making it difficult to determine standard treatment strategies. This is compounded by the patient group's diversity in functional status, duration of the diabetes and complications, the presence of co-morbidities and life expectancy, leading to challenges with both overtreatment and undertreatment of older adult patients.

Dr. John E. Morley, Director of the Division of Geriatric Medicine at St. Louis University School of Medicine, discussed sarcopenia, the age-related loss of skeletal muscle mass and function that that is a major contributor to the loss of independence and deteriorating quality of life in the elderly. The loss of muscle mass has additional, far-ranging effects. Muscle acts as a metabolic reservoir, producing proteins and metabolites necessary to support the immune system and other bodily processes necessary during recovery following a traumatic event such as an accident or surgery.

Only in the past 20 years has the condition been the focus of rigorous clinical examination. Although identifying sarcopenia risk groups is straightforward, diagnosis and treatment of individuals can be more of a therapeutic challenge, Dr. Morley suggested. However, he noted that advancements in disease detection, the positive effects of higher dietary protein intake, structured physical activity (resistance exercise) -- which leads to release of muscle growth factors that encourage muscle regeneration -- and pharmaceutical therapies such as testosterone combined with a leucine-enriched amino acid supplement and vitamin D are improving outcomes.

Dr. Sandeep Dhindsa highlighted andropause (late-onset hypogonadism), the age-related decline in testosterone levels, and the impact of testosterone replacement therapy (TRT) on andropausal patients. While often characterized by symptoms such as low libido and erectile dysfunction (ED), the most easily recognized clinical signs of androgen deficiency in older men are a decrease in skeletal muscle mass and strength, decreased bone mass and an increase in central body fat. Dr. Dhindsa shared evidence that documents the many benefits of testosterone replacement in hypogonadal men, including increased skeletal muscle strength, bone density and the suppression of adiposity, while refuting claims that TRT can cause side effects such as an enlarged prostate, an increased risk of heart attack and stroke based on currently available evidence

Presenters from "*The Aging Patient: Endocrinology for the Ages"* will discuss details regarding endocrine-specific conditions affecting the elderly and their treatment in a press briefing with on Saturday, May 6, at 12:30 p.m. at the AACE 26th Annual Scientific and Clinical Congress.

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