



University Hospitals
Case Medical Center

Cleveland | Ohio

FORGING MEDICINE'S FUTURE

**DIVISION OF CLINICAL &
MOLECULAR ENDOCRINOLOGY**



DEAR COLLEAGUE:

As one of just 18 hospitals named to the **U.S. News & World Report Honor Roll**, University Hospitals Case Medical Center is committed to building upon a legacy of medical discovery that began nearly 150 years ago and continues today.

UH physicians in Clinical & Molecular Endocrinology and Pediatric Endocrinology, Diabetes & Metabolism, many of whom are also faculty at Case Western Reserve University School of Medicine, are forging the future of medicine through a number of programs and initiatives:

- The division is piloting National Institutes of Health (NIH) research in inhibiting the development and progression of diabetic retinopathy.

- University Hospitals Rainbow Babies & Children's Hospital is one of 15 sites designated by NIH to Case Western Reserve University School of Medicine to conduct the Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) study, the largest in the world to address treatment of type 2 diabetes.

We welcome your feedback on how we can work together to further enhance the field of endocrinology.

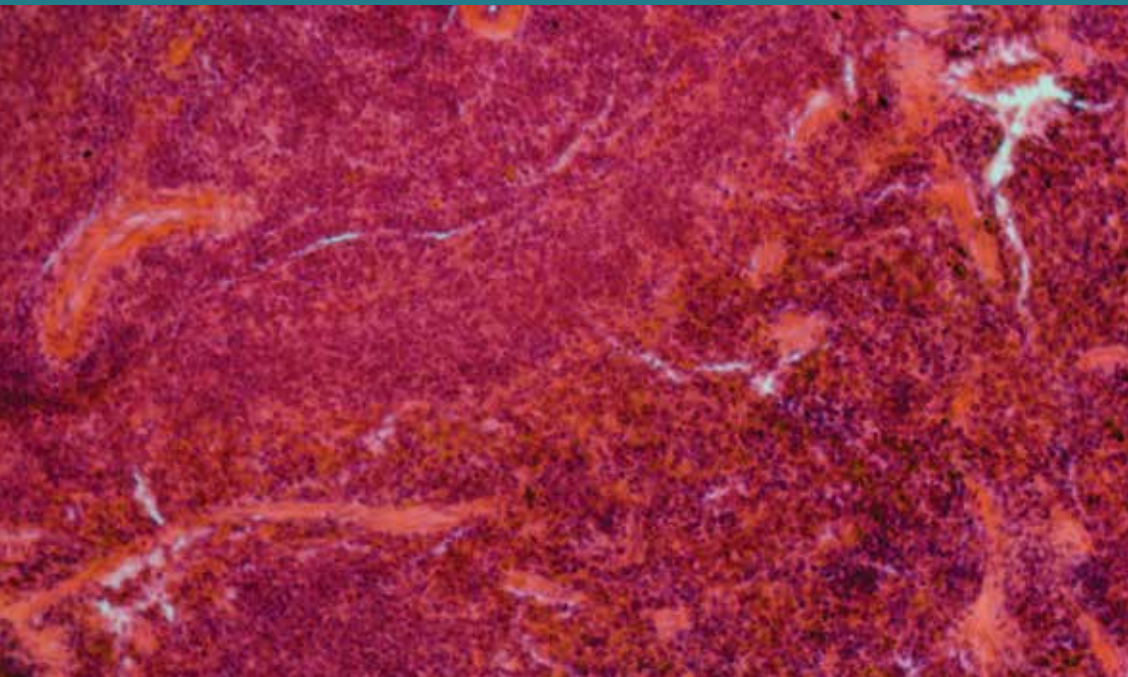


A handwritten signature in black ink, appearing to read "B. Arafah".

Baha M. Arafah, MD

*Division Chief, Clinical & Molecular Endocrinology,
UH Case Medical Center
Professor of Medicine,
Case Western Reserve University School of Medicine*

All National Institutes of Health (NIH) funding for basic and clinical research is awarded to the School of Medicine at Case Western Reserve University.



Division of Clinical & Molecular Endocrinology

The UH Case Medical Center Division of Clinical & Molecular Endocrinology is a national destination for referring physicians and patients seeking the most advanced care and groundbreaking treatments for hormone-related diseases.

University Hospitals is acclaimed for its treatment of endocrine conditions in adults, adolescents and children through the Division of Clinical & Molecular Endocrinology at UH Case Medical Center and the Division of Pediatric Endocrinology, Diabetes & Metabolism at University Hospitals Rainbow Babies & Children's Hospital. The impact of the division's clinical research, conducted with Case Western Reserve University School of Medicine, and public policy activities have **advanced endocrinology and benefited patients throughout the region and beyond**. Division leaders bring a new patient-centric philosophy of care that considers each patient's health issues and social concerns. The highly specialized team can address nearly all conditions within the endocrinology scope.

UH CASE MEDICAL CENTER

Among the nation's leading academic medical centers, UH Case Medical Center is the **primary affiliate of Case Western Reserve University School of Medicine.**

TO HEAL. TO TEACH. TO DISCOVER.

With more than 1,000 registered beds, UH Case Medical Center provides primary, specialty and subspecialty medical and surgical care. Located in the heart of Cleveland's University Circle on a beautiful 35-acre campus, UH Case Medical Center includes general medical, intensive care and surgical units, as well as three major specialty hospitals:

University Hospitals Seidman Cancer Center

University Hospitals MacDonald Women's Hospital

University Hospitals Rainbow Babies & Children's Hospital

Our physicians and researchers – who also serve as faculty at Case Western Reserve University School of Medicine – are leaders in their respective fields, and their ongoing clinical research programs push the boundaries of medical progress.

Our dedication to clinical research and education has played a major role in building UH Case Medical Center's rich legacy of medical innovation, and continues to this day. Coupled with a commitment to implementing the latest therapies and integrating with the most technologically advanced hospitals and community facilities, UH Case Medical Center offers a depth of care and scope of services unmatched by any other medical center in Ohio.

1,000+
registered
beds

35
acre
campus

3
major
specialty
hospitals



THE PRIMARY AFFILIATE OF Case Western Reserve University School of Medicine

The commitment to exceptional patient care begins with revolutionary discovery. **University Hospitals Case Medical Center is the primary affiliate of Case Western Reserve University School of Medicine**, a national leader in medical research and education, and consistently ranked among the top research medical schools in the country by U.S. News & World Report. Through their faculty appointments at Case Western Reserve University School of Medicine, physicians at UH Case Medical Center are advancing medical care through innovative research and discovery that bring the latest treatment options to patients.



*Drs. Carol Rosen,
Carolyn Landis
and Kristie Ross*

Division of Clinical & Molecular Endocrinology

The endocrinologists in the Division of Clinical & Molecular Endocrinology at UH Case Medical Center address complex endocrine disorders, including diabetes mellitus, and other diseases affecting the thyroid, bone, the pituitary and the adrenal glands, as well as sex hormones.

The division provides treatment through three specialized centers:

- The Pituitary Center combines the expertise of endocrinologists, neurosurgeons and neuro-ophthalmologists in the management of patients with hypothalamic or pituitary diseases.
- The Thyroid Center focuses on integrated management of patients with thyroid illnesses.
- The Diabetes Inpatient Management Center focuses on improved glycemic control for the entire inpatient population, especially those in the intensive care unit.

*To contact the division,
email EndocrinologyInfo@UHhospitals.org.*

Division of Pediatric Endocrinology, Diabetes & Metabolism

The Division of Pediatric Endocrinology, Diabetes & Metabolism at UH Rainbow Babies & Children's Hospital specializes in diabetes mellitus, cystic fibrosis-related diabetes, growth disorders, thyroid problems, metabolism, obesity, failure to thrive, pubertal disorders, disorders of sexual differentiation, calcium problems, hypoglycemia, nutritional disorders, and newborn screening abnormalities in children and adolescents.

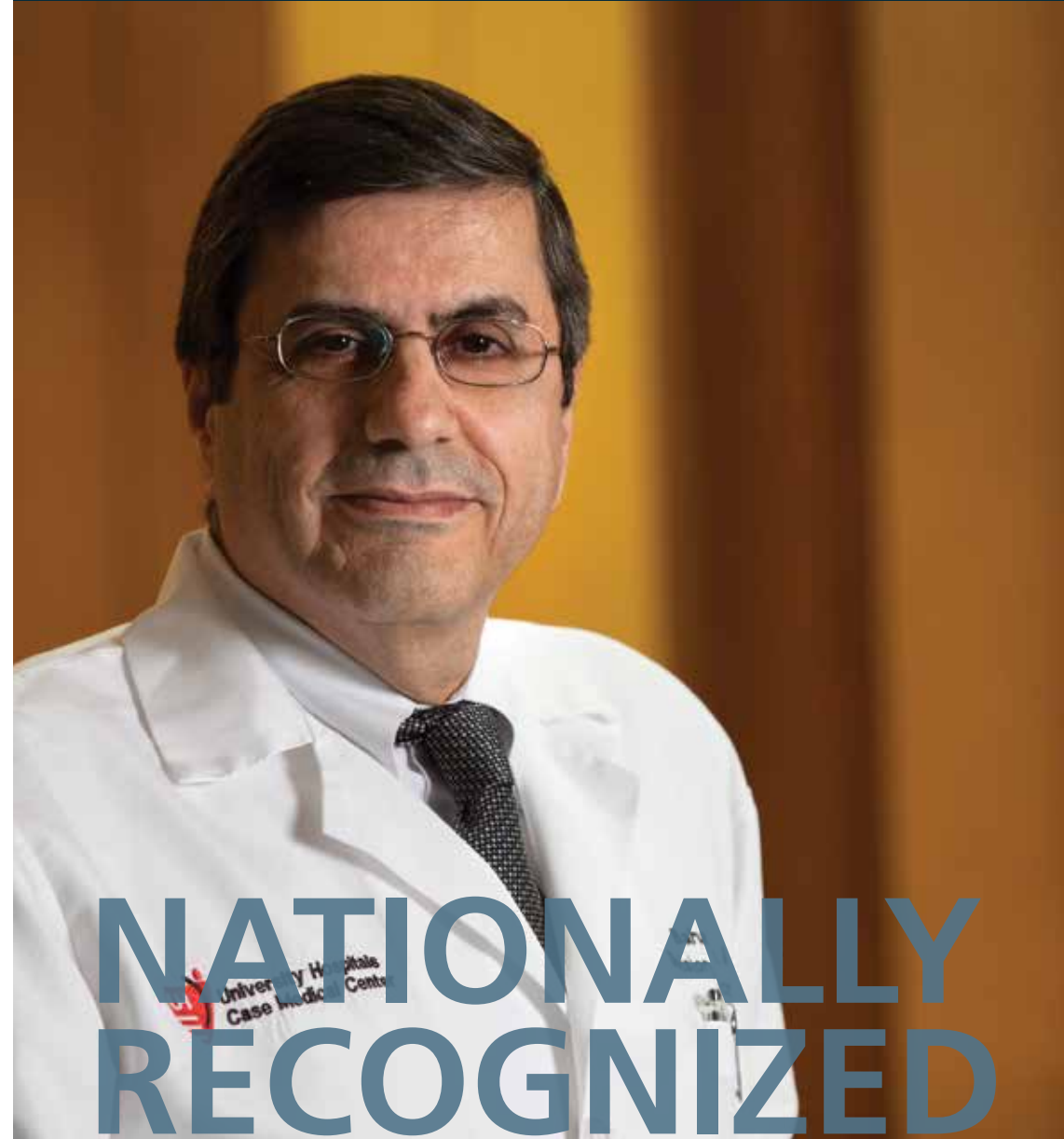
The Center for Children's Diabetes, Activity & Nutrition at UH Rainbow Babies & Children's Hospital was created as a Center of Excellence through the Centers for Disease Control and Prevention.

A multidisciplinary group of nationally recognized endocrinologists provide a full spectrum of services for patients.

They offer the latest in innovative technology for the diagnosis and treatment of all endocrine-related conditions and diseases, including diabetes and thyroid, adrenal and pituitary disorders.

Baha M. Arafah, MD, *Division Chief, Clinical & Molecular Endocrinology, UH Case Medical Center; and Professor of Medicine, Case Western Reserve University School of Medicine*, is a renowned expert in the field of pituitary and adrenal disorders. Appointed as Division Chief in 2011, Dr. Arafah has led clinical research in the pathophysiology of different pituitary disorders, an area in which the division has become internationally recognized. These studies culminated in recognizing specific pathophysiological mechanisms for the development of hypopituitarism, especially in individuals with pituitary adenomas. In recent years, Dr. Arafah has led studies addressing adrenal function during various critical illnesses. These studies emphasized limitations of currently available testing approaches and provided impetus for changes in the understanding of adrenal function during critical illnesses.

Dr. Baha Arafah



**NATIONALLY
RECOGNIZED
EXPERTS**

CLINICAL & MOLECULAR ENDOCRINOLOGY



Dr. Faramarz Ismail-Beigi

GRADE STUDY AIMS TO FIND Best Diabetes Treatment

UH DIVISION OF CLINICAL & MOLECULAR ENDOCRINOLOGY PARTICIPATING IN NATIONAL TRIAL

University Hospitals Division of Clinical & Molecular Endocrinology, through Case Western Reserve University School of Medicine, is one of 37 clinical centers nationwide taking part in the “Glycemia Reduction Approaches in Diabetes: A Comparative Effectiveness (GRADE)” study, supported by a five-year, \$134 million grant from the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health (NIH) to Case Western Reserve University School of Medicine. This study, which began recruiting patients in 2013, will determine which combination of two medications is best for glycemic control, has the fewest side effects and is the most beneficial for overall health.

Dr. Baha M. Arafah explains that typically when a patient is newly diagnosed with diabetes, physicians may try several combinations of glucose-lowering medications to find an effective treatment. This study eventually hopes to eliminate some of this trial and error by identifying which of the many possible drugs is the best choice among people already treated with metformin, the most commonly used diabetes drug.

GRADE is a nationwide randomized, clinical trial of 5,000 participants diagnosed with type 2 diabetes within the past five years who are already being treated with metformin. It will directly compare the four most commonly used types of glucose-lowering medications, in addition to metformin, over an average of four years. Participants will be assigned randomly to one of these four medications and followed for up to

seven years to evaluate their relative effectiveness in achieving good glycemic control and their impact on other diabetes-related conditions and overall health.

The GRADE study is being coordinated by researchers at George Washington University. At UH Case Medical Center, **Faramarz Ismail-Beigi, MD, PhD**, *Clinical and Molecular Endocrinology, UH Case Medical Center; and Professor of Medicine, Biochemistry, Physiology and Biophysics, Case Western Reserve University School of Medicine*, is the principal investigator.

CLINICAL ADVANCES

The Division of Clinical & Molecular Endocrinology at UH Case Medical Center introduced a new patient-centered health care delivery program for patients with diabetes mellitus that aims to improve disease outcomes and quality of care. In addition to controlling glycemia, the program incorporates other health-related issues such as smoking, aspirin use and weight management that can alter clinical outcomes. Beyond managing diabetes mellitus and its complications, physicians counsel and treat diabetes patients on related issues to improve the patient’s whole health.

The Center for Children’s Diabetes, Activity & Nutrition (CCDAN) at UH Rainbow Babies & Children’s Hospital offers comprehensive, family-centered care for children with diabetes. The team at CCDAN, which includes endocrinologists certified in pediatric endocrinology, diabetes nurse educators, registered dietitians, exercise physiology and weight management specialists, psychologists and researchers, helps guide families toward the healthiest possible decisions.

The Division of Pediatric Endocrinology, Diabetes & Metabolism created the Healthy Kids, Healthy Weight™ community-education and weight-management program to address the issue of childhood obesity. Healthy Kids, Healthy Weight is a doctor-supervised early intervention, weight loss and exercise program for kids and an important resource teaching at-risk families to make healthier choices. Its centerpiece is a 12-week outpatient multidisciplinary program during which specialists train kids and families in how to practice healthier eating and exercise habits.

All National Institutes of Health (NIH) funding for basic and clinical research is awarded to the School of Medicine at Case Western Reserve University.

Dr. Rose Gubitosi-Klug



With the goal of advancing children's health and bringing new tools to physicians who treat children, the Division of Pediatric Endocrinology, Diabetes & Metabolism pursues advanced research in several areas related to the endocrine system, diabetes and metabolism and benefits from more than \$7 million in NIH funding to Case Western Reserve University School of Medicine.

LEADING THE WAY IN CHILDREN'S DIABETES RESEARCH

Division of Pediatric Endocrinology Conducts EDIC and TODAY Trials

Diabetes is one of the most common long-term childhood diseases, and its prevalence has surged over the past 20 years. The Centers for Disease Control and Prevention estimates that one in three American children born today will develop diabetes in their lifetimes. The Division of Pediatric Endocrinology, Diabetes & Metabolism at UH Rainbow Babies & Children's Hospital conducts studies on diabetes in childhood and its treatment and complications.

UH Rainbow Babies & Children's Hospital, in conjunction with the School of Medicine, is the national coordinating center for the Epidemiology of Diabetes and Its Complications (EDIC) trial, under the direction of **Rose Gubitosi-Klug, MD, PhD**, *pediatric endocrinologist, UH Rainbow Babies & Children's Hospital; and Assistant Professor of Pediatrics at the School of Medicine*, and **Saul Genuth, MD**, *endocrinologist, UH Case Medical Center; and Professor of Medicine at the School of Medicine*. EDIC examines the development of complications as the result of glucose control for diabetes. The study also includes an investigation of genetics related to those complications. Funding for the trial began in 2007 and was renewed for an additional five years in September 2012.

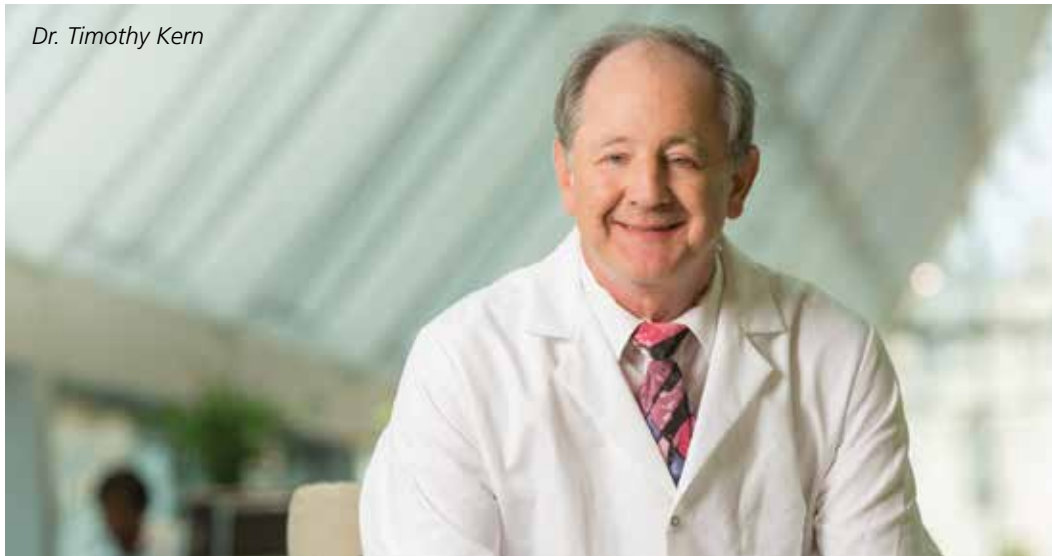
UH Rainbow Babies & Children's Hospital was also one of 13 sites designated by the NIH funding through Case Western Reserve University School of Medicine to conduct the Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY) study, the largest in the world to address treatment of type 2 diabetes. TODAY was a landmark NIH study of more than 700 children and adolescents with type 2 diabetes that addressed how best to treat type 2 diabetes in youth by comparing three treatment regimens.

Findings of the TODAY trial were presented in the *New England Journal of Medicine* on June 14, 2012, by the TODAY study group. The results of this study now guide further research into how combined drug therapy can effectively treat type 2 diabetes in children and what components of a lifestyle intervention program, such as diet, exercise, and group education or counseling, best complement drug therapies.

UH Case Medical Center's physicians, surgeons and scientists – all members of the faculty of Case Western Reserve University School of Medicine – are leaders in their respective fields, and their ongoing research programs are at the leading edge of medical progress. A strong emphasis on translational, or “bench-to-bedside,” research means that new and innovative treatments and technologies transfer more rapidly from the research laboratory to actual patient care.

TOMORROW'S CURES TODAY.

Dr. Timothy Kern



Research led by **Timothy Kern, PhD**, Professor and Director of the Center for Diabetes Research at Case Western Reserve University School of Medicine, focuses on identifying how hyperglycemia causes retinopathy so that new, improved treatment may be devised to inhibit the loss of vision in people with diabetes. Two hyperglycemia-induced abnormalities of retinal metabolism presently are being investigated in Dr. Kern's lab at Case

Pediatric endocrinologists at UH Rainbow Babies & Children's Hospital are studying diabetes with roots in cystic fibrosis. About 30 percent of children with cystic fibrosis will develop an associated kind of diabetes, cystic fibrosis-related diabetes (CFRD). The division received an award from the Cystic Fibrosis Foundation to develop a special clinic to gather data and treat more children with CFRD.

Western Reserve University School of Medicine: nonenzymatic attachment of hexose to proteins, lipids and nucleotides and activation of protein kinase C activity. Therapies that correct these metabolic abnormalities are being investigated to determine the relationship of retinal dysmetabolism to tissue function and the development of retinopathy and other forms of microvascular disease.

Dr. Faramarz Ismail-Beigi was a chief investigator of the Action to Control Cardiovascular Risk in Diabetes (ACCORD) trial, which found that intensively targeting blood sugar in adults with type 2 diabetes who are also at high risk for heart attack and stroke does not significantly reduce the risk of major cardiovascular events, but does increase risk of death compared with standard treatment. Building on these findings, the Action to Control Cardiovascular Risk in Diabetes Follow On (ACCORDION) clinical trial is an observational study of at least 8,000 participants of the ACCORD trial, which ended in 2009. ACCORDION is designed to further research the long-term effects of the ACCORD treatment strategies and the relationships among various cardiovascular and diabetic risk factors.

RESEARCH

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The Harrington Project for Discovery & Development is a \$250 million national initiative to accelerate the development of medical breakthroughs by physician-scientists into medicines that benefit patients. It is a unique model that aligns, through mission and structure, nonprofit and for-profit resources into a system for drug development. The Harrington Project thereby addresses a set of major challenges in medicine that have created a development gap for promising discoveries.

The Harrington Discovery Institute at University Hospitals Case Medical Center, the nonprofit component of The Harrington Project, enables physician-scientists to translate their clinical insights and research into novel therapies that benefit patients and society. Through an annual competition, the Harrington Discovery Institute selects a group of medical innovators known as Harrington Scholar-Innovators whose projects are funded and actively guided by drug discovery experts toward the clinical realm.

HARRINGTON DISCOVERY INSTITUTE
AT UNIVERSITY HOSPITALS CASE MEDICAL CENTER

A CATALYST FOR A NEW MODEL IN DRUG DEVELOPMENT

2014 SCHOLARS The 2014 class of Harrington Scholar-Innovators selected by the institute's scientific advisory board are:

Jayakrishna Ambati, MD
University of Kentucky

Darren Carpizo, MD, PhD
Rutgers Cancer Institute of New Jersey

Garret FitzGerald, MD
University of Pennsylvania

Mark Humayun, MD, PhD
University of Southern California

John Kheir, MD
Harvard University

Rahul Kohli, MD, PhD
University of Pennsylvania

Gavril Pasternak, MD, PhD
Memorial Sloan-Kettering Cancer Center

Irina Petrache, MD
Indiana University

David Rowitch, MD, PhD
University of California, San Francisco

Jean Tang, MD, PhD
Stanford University

David Wald, MD, PhD
Case Western Reserve University

To learn more, visit HarringtonDiscovery.org.



THE HARRINGTON SCHOLAR-INNOVATOR GRANT PROGRAM: CHANGING THE STATUS QUO

*Geoffrey Gurtner, MD, FACS
Harrington Scholar-Innovator 2013
Stanford University, Stanford, Calif.
Diabetic wound healing*

Dr. Gurtner, a plastic surgeon and professor at Stanford University, and his team have discovered a negative correlation between high blood sugar and tissue regeneration and fibrosis. He believes that this irrevocable disruption of the healing process at the molecular level is responsible for the development of nonhealing wounds in patients with diabetes.

“My research [is] very translationally focused on clinical needs that are unaddressed by current technologies, companies or drugs.”

With support from the Harrington grant, Dr. Gurtner hopes to translate this research into a prophylactic treatment that would prevent wounds in people with diabetes, paraplegics and other patient populations prone to chronic wounds.

He describes his research as innovative and high risk – two descriptors that can spell sudden death in the land of funding support. “This is an area that can only be funded by an organization such as the Harrington Discovery Institute,” Dr. Gurtner says.

To read more about the 2013 Harrington Scholar-Innovators, visit HarringtonDiscovery.org/Scholar-Innovator2013.

To be notified of the next Harrington Scholar-Innovator Grant call for proposals, email Natalie.Haynes@UHhospitals.org.

In 1996, UH created a clinical trials office at what is now UH Case Medical Center. At the time of its creation, the focus and management of clinical trials was managed by a small staff. This team was charged with the fiscal management of a handful of clinical trials, as well as regulatory oversight of human subject protections. By 2000, the office became known as the UH Research Institute.

From 1996 to 2003, the clinical research enterprise at the academic medical center continued to expand, resulting in exponential growth of both the staff and the research activity managed. The institute grew into a much broader

support department and became the **Center for Clinical Research and Technology (CCRT)**, which consists of seven offices dedicated to developing a standardized platform ensuring the responsible conduct of research for patients through scientific, regulatory, legal, ethical and fiscal review.

The CCRT now provides infrastructure, programmatic, personnel and administrative support for all research activities performed at UH by UH medical or scientific staff. These medical scientists are national and international leaders in their respective fields and are committed to **identifying standards of excellence** and potential areas for improvement to promote and **facilitate clinical and translational research**.

By 2013, the CCRT activities amounted to over \$42 million at UH and \$167 million of UH activity related to the affiliation between UH and Case Western Reserve University School of Medicine. These funds emanate from nearly 1,200 active grants and contracts at UH and nearly 700 additional grants that annually fund the shared faculty of UH and the School of Medicine through nearly 2,300 active human research protocols.

To learn more about the Center for Clinical Research and Technology directly, visit UHhospitals.org/Clinical-Research, call 216-844-5576 or email ClinicalResearch@UHhospitals.org.

UH Case Medical Center **CENTER FOR CLINICAL RESEARCH AND TECHNOLOGY**

Clinical research has always driven the practice of medicine to new heights and, as such, is deeply embedded within the very mission statement of University Hospitals:

To Heal. To Teach. To Discover.

Division of Clinical & Molecular Endocrinology

Leadership

Baha M. Arafah, MD

*Division Chief, Clinical & Molecular Endocrinology
Professor*

David C. Aron, MD, MS, FACP

Professor

Faramarz Ismail-Beigi, MD, PhD

Professor

Saul Genuth, MD

Professor

Laure Sayyed Kassem, MD

Assistant Professor

Timothy Kern, PhD

Professor

Laleh R. Nematollahi, MD

Assistant Professor

Korina Shulemovich, MD

Clinical Instructor

Ajay Sood, MD

Associate Professor

Pediatric Endocrinology

Leona Cuttler, MD*

Professor

Abigail Glick, MD

Instructor

Rose Gubitosi-Klug, MD, PhD

Associate Professor

Beth Kaminski, MD

Assistant Professor

Douglas Kerr, MD, PhD

Professor Emeritus

Michaela Koontz, MD

Assistant Professor

Sarah MacLeish, DO

Assistant Professor

Sumana Narashimhan, MD

Assistant Professor

Naveen Uli, MD

Associate Professor

Teresa Zimmerman, MD

Assistant Professor

Independent Specialists on Staff

Delorise Brown, MD

Clinical Instructor

Stephen J. Burgun, MD

Clinical Assistant Professor

Gregg H. Faiman, MD

Clinical Instructor

Valerie Hadam, MD

Clinical Assistant Professor

Richard Koletsky, MD

Clinical Assistant Professor

Frederic Lafferty, MD

Clinical Professor

Jay Marrow, MD

Clinical Assistant Professor

Roger S. Peckham, MD

Clinical Assistant Professor

Adrian M. Schnall, MD

Clinical Professor

John Sheehan, MD

Clinical Associate Professor

Ralph Wieland, MD

Clinical Associate Professor

Physicians receive their academic appointments and their accompanying titles from Case Western Reserve University School of Medicine.

*Deceased

Leona Cuttler, MD 1951 – 2013



Renowned for excellence in research, policy and advancing care for children, Leona Cuttler, MD, was a master clinician, respected educator and nationally recognized innovator of child health policy.

Dr. Cuttler held the inaugural William T. Dahms Chair in Pediatric Endocrinology, Diabetes & Metabolism at University Hospitals Rainbow Babies & Children's Hospital, where she served as Chief of the Division of Pediatric Endocrinology, Diabetes & Metabolism, Vice Chair of Child Health Policy and Community Health, and was founder and Director of the Center for Child Health and Policy. She also was Professor of Pediatrics at Case Western Reserve University School of Medicine.

Dr. Cuttler earned numerous awards from federal and state agencies and foundations for her work, and held leadership roles on key state and federal committees.

Dr. Cuttler's unwavering energy and dedication, pursuit of excellence, wide-ranging intellectual curiosity, and especially her brilliance and creative vision, contributed to her legacy as a clinician, researcher and mentor. Her contributions continue to inspire efforts to improve the health and well-being of all children.

To refer a patient or learn more
about UH Case Medical Center Division
of Clinical & Molecular Endocrinology,
call **1-866-UH4-CARE** (1-866-844-2273)



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