

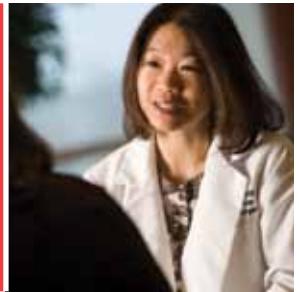


University Hospitals
Case Medical Center

Cleveland | Ohio

The Difference in Endocrinology

Division of Endocrinology





Among the nation's leading academic medical centers, University Hospitals Case Medical Center is the primary affiliate of Case Western Reserve University School of Medicine, a nationally recognized leader in medical research and education.







University Hospitals Case Medical Center

University Hospitals Case Medical Center has been at the forefront of patient care, physician education and medical research for more than 144 years.

Founded after the Civil War as a place of healing, the institution embraced a broader role as medical science advanced. By the turn of the twentieth century, a modern general hospital was enhanced by specialty facilities for women, children and infants. An affiliation with the medical school of what was then Western Reserve University – today Case Western Reserve University – made University Hospitals of Cleveland one of the first true academic medical centers in the United States, joining Johns Hopkins Hospital and Massachusetts General in combining the training of young physicians and the pursuit of laboratory research with delivery of the most advanced patient care.

Our mission:

To Heal.

To Teach.

To Discover.



University Hospitals Case Medical Center is located in University Circle, Cleveland's district of innovation in health care, education, arts and culture.

(Inset) The Rapid Transit Authority's HealthLine joins downtown Cleveland to University Circle.

In 1931, new facilities brought University Hospitals and the School of Medicine onto the same medical campus in University Circle. Over the years the complex continually expanded both its physical presence and the scope of its professional activities, adding diagnostic and treatment capabilities as well as top-flight physicians and surgeons. Eleven Nobel laureates have been affiliated with the medical center, helping to develop leading-edge treatments and therapies in such areas as heart disease, cancer, cystic fibrosis, neonatology and a host of subspecialties.

Today, as the primary affiliate of Case Western Reserve University School of Medicine, the **University Hospitals Case Medical Center** boasts a strengthened relationship to research and teaching and a large academic medical campus that incorporates nationally acclaimed hospitals including UH Rainbow Babies & Children's Hospital, UH Ireland Cancer Center and UH MacDonald Women's Hospital. In addition new institutes have emerged: The UH Neurological Institute, UH Harrington-McLaughlin Heart & Vascular Institute, UH Eye Institute, the UH Digestive Health Institute and the UH Urology Institute. The UH Case Medical Center campus, which provides patient-centered care with the most sophisticated diagnostic and therapeutic technologies, is augmented by a regional network of affiliated hospitals and suburban satellite locations.

University Hospitals is in the midst of completing Vision 2010, a five-year, \$1.2 billion strategic plan, which includes building a new freestanding 120-bed inpatient and outpatient UH Cancer Hospital to house the UH Ireland Cancer Center; a Center for Emergency Medicine at UH Case Medical Center for adults and children; a recently opened Neonatal Intensive Care Unit at UH Rainbow Babies & Children's Hospital, which was ranked second in the nation for newborn care by U.S. News & World Report; and building the UH Ahuja Medical Center, a 432,000-square-foot hospital and office building in Beachwood, Ohio, and several outpatient health centers throughout Northeast Ohio. A key portion of Vision 2010 focuses on implementing a new state-of-the-art Electronic Medical Record system throughout the health system.



As part of our strategic plan, the UH Cancer Hospital will open for patients in 2011. The 120-bed facility will bring together diagnostics, outpatient and inpatient treatment, surgery, clinical trials and professional education and research all under one roof.



Our History

From humble beginnings University Hospitals Case Medical Center has led the ranks of academic medicine in patient care, physician education and biomedical research, fulfilling all three elements of its ongoing mission – “To Heal. To Teach. To Discover.”

The world's earliest blood transfusion took place here in 1906, Dr. Spock began his child development research here, and CPR was first developed and taught here. UH Case Medical Center is where iodine's role in thyroid disease was discovered, where Dr. Claude Beck performed the first surgical treatment of coronary artery disease, and where research in cystic fibrosis was launched. Throughout its history, University Hospitals has led medical advancements that have improved the lives of people around the world.

Learn more about pioneering advancements, current research and future investments in **Endocrinology**, one of University Hospitals Case Medical Center's most comprehensive and esteemed specialty areas.

Division of Endocrinology

Best-in-class endocrinology research and clinical practice at University Hospitals Case Medical Center is conducted by The Division of Clinical & Molecular Endocrinology, which treats and studies endocrine conditions in adults, and the Division of Pediatric Endocrinology, Diabetes & Metabolism, which treats children and adolescents at UH Rainbow Babies & Children's Hospital.



The Division of Clinical & Molecular Endocrinology at UH Case Medical Center has been recognized nationally and internationally for its contributions in endocrinology across a wide variety of areas, including diabetes mellitus, thyroid cancer and other thyroid illnesses, and diseases of the pituitary and adrenal glands. These contributions have repeatedly earned its place on the U.S. News & World Report list of best diabetes and endocrine disorders hospitals.

Contributions to the Field

The division's research, conducted in partnership with the Case Western Reserve University School of Medicine, has made a wide-ranging impact on endocrinology and medicine as a whole.

In the 1950s, the distinguished researcher Max Miller, MD, led the first major clinical trial in diabetes supported by the National Institutes of Health, known as The University Group Diabetes Program (UGDP). A multicenter study that compared the effectiveness of treatments in preventing the long-term complications of diabetes, its findings that treatment with an oral agent led to increased mortality in patients continue to reverberate today.

From 1959 to 1987, the division was led by Bernard Landau, MD, a world-renowned expert on carbohydrate metabolism and the use of nonradioactive isotopes in human investigations, who drove the department's leadership in diabetes and metabolism research.

Olaf Pearson, MD, the then-leading expert on hormones and cancer, joined the division in 1961 and established a clinical and research program focused on the role of hormones in breast cancer. He also pioneered the use of hypophysectomy – the surgical removal of the pituitary gland – for the treatment of metastatic breast cancer.

In the 1980s and 1990s, building on the UGDP, the department led two additional influential diabetes trials: the Diabetes Control and Complication Trial (DCCT) and the Epidemiology of Diabetes Interventions and Complications, or EDIC trial. These studies continue to shape diabetes treatment and management today.

Current Research and Advancements

NIH Research funding to Case Western Reserve University School of Medicine supports scientific, translational and clinical research at UH Case Medical Center.

The division's rich history continues with influential research underway on pituitary diseases, thyroid cancer, adrenal function during critical illness, thyroid hormone action, regulation of glucose transporter expression and function, pathogenesis and prevention of microvascular complications of diabetes, and apoptosis.

Two recently completed studies center on diabetes and the prevention of cardiovascular disease. Case Western Reserve University School of Medicine's involvement in the much-anticipated BARI 2D (Bypass, Angioplasty, Revascularization, Investigation in Type-2 Diabetics) trial was led by Saul Genuth, MD, who was also one of the authors of the results published in the *New England Journal of Medicine*. BARI 2D found that revascularization was no more beneficial than intensive medical therapy in patients with diabetes and stable coronary artery disease.

Another noted researcher, Framariz Ismail-Beigi, MD, was one of the chief investigators of the ACCORD (Action to Control Cardiovascular Risk in Diabetes) trial, which involved 77 sites and more than 10,000 participants. ACCORD's findings showed that intensively targeting blood sugar in adults with type 2 diabetes and high risk for heart attack and stroke does not significantly reduce the risk of major cardiovascular events but *does* increase risk of death compared to standard treatment. The department is also known for the work of Dr. Timothy Kern, who is currently piloting National Institutes of Health-funded research in inhibiting the development and progression of diabetic retinopathy.

In pituitary research, Dr. Pearson's initial research on the role of pituitary hormones in breast cancer was expanded by Baha Arafah, MD, to focus on the pathophysiology of different pituitary disorders, an area in which the department has become internationally recognized.

The division has also made important new contributions in the area of hormonal function, especially corticosteroids during critical illnesses. In a recent landmark study published in the *New England Journal of Medicine*, a study conducted at UH Case Medical Center and led by Dr. Arafah challenged, for the first time, the prevailing concept of the



existence of “relative adrenal insufficiency” during critical illness. The study and subsequent investigations in that area by Dr. Arafah led to a major change in understanding adrenal function during critical illness and also to a critical reappraisal of the term “relative adrenal insufficiency” such that most authorities in the field of endocrinology no longer accept the existence of that entity.

Future Projects and Investments

The Division of Clinical & Molecular Endocrinology is working toward not only advancing research and introducing new areas of study in the field of endocrinology and its related disciplines, but it will also invest in improving the clinical treatment of endocrine disorders throughout the University Hospitals Case Medical Center system.

One new project is focused on improving diabetes management in the medical residents' clinics through chart reviews, feedback, lectures and seminars. The department is also working to receive Joint Commission on the Accreditation of Healthcare Organizations certification for inpatient diabetes management.

A recently established Thyroid Center, led by Dr. Arafah, will offer integrated management of patients with thyroid illnesses. It joins the Pituitary Center, which provides integrated management for all patients with hypothalamic and pituitary diseases, and the Diabetes In-Patient Management Center, which works to improve glycemic control for the entire in-patient population, particularly those in the ICU.



Division of Pediatric Endocrinology, Diabetes & Metabolism

The Division of Pediatric Endocrinology, Diabetes & Metabolism at UH Case Medical Center specializes in diabetes mellitus, growth disorders, thyroid problems, metabolism, obesity, failure to thrive, pubertal disorders, sexual differentiation disorders, calcium problems, hypoglycemia, nutritional disorders and newborn screening abnormalities in children and adolescents. The division's quality of care and breadth of research has led to UH Rainbow Babies & Children's Hospital's ranking by U.S. News & World Report as one of the top pediatric endocrinology programs in the country.

Current Research and Advancements

NIH Research funding to Case Western Reserve University School of Medicine supports scientific, translational and clinical research at UH Case Medical Center.

The division actively pursues research in several areas related to the endocrine system, diabetes and metabolism and received more than \$7 million in research funding in the past year.

It is one of 15 sites designated by the National Institutes of Health to conduct the TODAY (Treatment Options for type 2 Diabetes in Adolescents and Youth) study, the largest in the world to address treatment of type 2 diabetes, initiated due to the increase in type 2 diabetes in children and adolescents. At UH Rainbow Babies & Children's Hospital, Leona Cuttler, MD, is principal investigator.

UH Rainbow Babies & Children's Hospital is the national coordinating center for the EDIC (Epidemiology of Diabetes and Its Complications) trial, the follow-up to the landmark DCCT (Diabetes Control and Complications Trial), which established how important it is to have good glycemic control to prevent complication. This work is led by Rose Gubitosi-Klub, MD, in pediatric endocrinology and Saul Genuth, MD, in adult endocrinology. Dr. Klub also investigates the molecular basis of diabetes complications to better understand the mechanisms and identify treatment.

Dr. Cuttler is also a national leader in understanding the mechanisms and treatment of growth disorders in children, leading grant-supported research on physician decision-making and the use of growth hormone in children.

Douglas Kerr, MD, director of The Center for Inherited Disorders Energy and Metabolism at Case Western Reserve University School of Medicine, is regarded nationally for his research and clinical work in mitochondrial disorders.

On the clinical front, the Division of Pediatric Endocrinology, Diabetes & Metabolism at UH Case Medical Center is known for its program in Cystic Fibrosis-related Diabetes.

Center for Child Health and Policy

The Center for Child Health and Policy at UH Rainbow Babies & Children's Hospital, directed by Dr. Cuttler, builds on the vast expertise in childhood health at UH Case Medical Center and Case Western Reserve University School of Medicine to translate research into practice and shape state and federal health policy. Its 2008 health policy brief, "Obesity in Children and Families Across Ohio," was named the best policy research in Ohio and is the basis for proposed state legislation to address the issue of childhood obesity.

Because of its work in the research and policy of diabetes and childhood obesity, the Division of Pediatric Endocrinology, Diabetes & Metabolism at UH Case Medical Center was named a Diabetes and Obesity Center of Excellence by the Centers for Disease Control.

Healthy Kids, Healthy Weight

The Healthy Kids, Healthy Weight program was developed to address growing obesity rates. With the belief that teaching healthy habits should begin as early as possible, the Healthy Kids, Healthy Weight team of physicians, psychologists and experts in dietetics, exercise physiology and nursing works with the child's family to tailor a program for their unique needs.



UH Rainbow Babies & Children's Hospital

Physicians & Scientists

at UH Case Medical Center and
Case Western Reserve University School of Medicine

Division of Endocrinology

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Interim Chief, Division of Clinical &
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Professor of Medicine

David C. Aron, MD, MS

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Faramarz Ismail-Beigi, MD, PhD

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Elizabeth Kern, MD, MS

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Timothy S. Kern, PhD

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Armand Krikorian, MD

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Ajay Sood, MD

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Clinical Professor

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Healthy Kids, Healthy Weight

Ann Nevar, MPH

Instructor in Pediatrics, Coordinator,
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Physicians and scientists at University Hospitals Case Medical Center and Case Western Reserve University School of Medicine have published over 100 articles this past year. To review these current publications, visit UHhospitals.org/ENDOpub

