

Celebrating 130 Years as a Cornerstone Institution in the Region and the State

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Throughout 2023, MCW has celebrated 130 years as a cornerstone institution in the region and the state. Throughout its history, MCW has created new knowledge that changes lives through training the next generation of physicians, scientists and other healthcare professionals through biomedical research, clinical excellence, specialty expertise and transformative clinical breakthroughs; and through bidirectional interaction with the communities we serve.

This year marks the 130-year anniversary of the founding of MCW's first predecessor institution, the Wisconsin College of Physicians and Surgeons, in 1893. The following year, our second predecessor institution, the Milwaukee Medical College, was established. These two medical schools merged to become the Marquette University School of Medicine in 1913 – an outstanding institution that would last for more than half a century. In 1967, Marquette terminated its sponsorship of the medical school, which became a private freestanding institution renamed the Marquette School of Medicine. In 1970, the institution was renamed the Medical College of Wisconsin.

Educational programs were enhanced with the creation of the Graduate School of Biomedical Sciences in 1995 (renamed the School of Graduate Studies in 2023); the opening of regional medical school campuses in Green Bay and Central Wisconsin in 2015 and 2016, respectively; establishment of the School of Pharmacy in 2015; recent expansion of master's and doctor of philosophy degree programs and the upcoming launch of the new Physician Associate Program in 2025.

In celebration of MCW's 130th anniversary, this cover story highlights numerous milestone achievements, impactful alumni and essential contributions made by members of the MCW community that have helped form the foundation for new knowledge, transformative discoveries and healthier communities.

It is nearly impossible to acknowledge all of the visionaries, partners, donors, alumni, faculty, staff and students whose contributions during this 130-year span have enabled MCW to make the dreams of its early pioneers a reality. We hope that readers will not infer that those individuals and achievements not included in this cover story are held in lesser esteem or valued to a lesser degree.

TOP TEN MCW Advancements & Innovations



1935▲

Armand Quick, PhD, professor and chair of biochemistry, created the Quick Test – the first standardized test for measuring blood coagulation. He also contributed to the discovery of the widely prescribed anticoagulant drug Warfarin.

1937▶

Edgar End, MD, professor of physiology, collaborated on a world-record scuba dive of 420 feet that led to the development of the field of hyperbaric medicine.

1964▶

Richard Stewart, MD, MS, MPH, PhD, professor of environmental medicine, developed the hollow-fiber kidney dialysis machine, which still serves as the prototype for kidney dialysis machines.

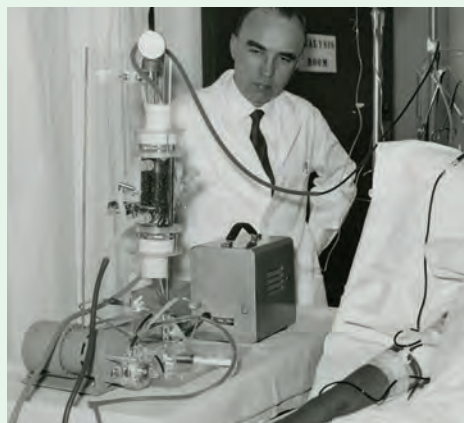
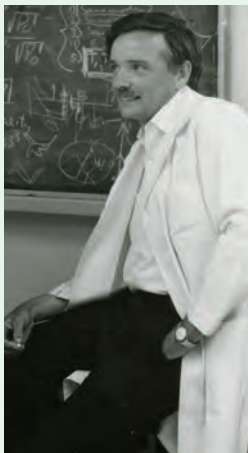


1972▲

MCW established what is now the Center for International Blood and Marrow Transplantation Research, the world's largest resource for blood and marrow transplantation research results.

1992▼

James Hyde, PhD, professor of biophysics and director of MCW's National Biomedical Electron Paramagnetic Resonance Center, Peter Bandettini, PhD '94, and Eric Wong, PhD '92, MD '94, helped develop functional magnetic resonance imaging, which allows for the noninvasive assessment of brain function.



2003▲

Thomas Aufderheide, MD, professor of emergency medicine, determined that automated external defibrillators, when used in conjunction with cardiopulmonary resuscitation, doubled the survival rate for cardiac arrest victims.

2004

MCW used proceeds of \$318 million from the conversion of Blue Cross & Blue Shield United of Wisconsin to establish the Advancing a Healthier Wisconsin Endowment, which to date has invested more than \$337 million in funding awards to more than 600 initiatives to improve the health of Wisconsin residents.

2010

Howard Jacob, PhD, professor of physiology, led the world's first application of whole genome sequencing technology to diagnose and successfully treat a patient with a rare and previously undiagnosable disease.



2012▲

Vehicle crash research conducted at the MCW Crash Injury Research and Engineering Network Center by neurosurgery faculty members Thomas Gennarelli, MD, Frank Pintar, PhD, and Narayan Yoganandan, PhD, led to the establishment of federal standards for side-impact air bags.

2012-2016▼

MCW created regional medical school campuses in Green Bay and Central Wisconsin to address Wisconsin's pending physician shortage, especially in the primary care fields. Since June 2018, 242 new physicians have graduated, 36 percent have remained in Wisconsin for residency training and 31 currently are practicing physicians in the state.



1893-1963

The Wisconsin College of Physicians and Surgeons in Milwaukee, MCW's predecessor, was founded on May 20, 1893. The Milwaukee Medical College was founded in 1894.

On January 14, 1913, the Marquette University School of Medicine was created through the merger of the Wisconsin College of Physicians and Surgeons and the Milwaukee Medical College.

The *Marquette Medical Review*, the nation's first medical student-edited medical journal, was established in 1936.

In June 1936, Marquette University awarded the first graduate degrees to students studying in medical departments.

Walter Zeit, PhD '39, served as a faculty member in the department of anatomy, chair of anatomy (1947-1967) and medical school administrator for almost 60 years – during which time he instructed more than 4,500 medical students.

Marvin Wagner, MD '44, MS '51, served as a faculty member in the department of cell biology, neurobiology and anatomy, and clinical professor of surgery for almost 50 years. He also authored a major anatomy textbook, *Segmental Anatomy: Applications to Clinical Medicine*.

The Marquette University School of Medicine and the Milwaukee Veterans Administration (VA) Hospital formalized a partnership on January 22, 1946, which was one of the nation's first affiliations between a VA hospital and a medical school.

In 1946, Walter Blount, MD, and Alfred Schmidt, MD, both professors of orthopaedic surgery, created the "Milwaukee brace" to treat scoliosis in children and adolescents. It still is used to treat certain forms of scoliosis.

Upon his death on December 6, 1951, Kurtis Froedtert left an estimated \$11 million to create a new hospital to support medical education and research.

In 1952, as dean, John Hirschboeck, MD '37, unveiled plans for a University Medical Center of Milwaukee to include the proposed Froedtert Memorial Lutheran Hospital.

Michael Dunn, MD '62, served as dean and executive vice president of MCW from 1995-2008, and as distinguished professor of medicine and emeritus dean from 2008 until his death in 2021.

Two alumni have served as president of the American Medical Association (AMA): Edward Annis, MD '38 (1963-1964) and Timothy Flaherty, MD '59 (2001-2002). Faculty member Jesse Ehrenfeld, MD, MPH, is the current AMA president.



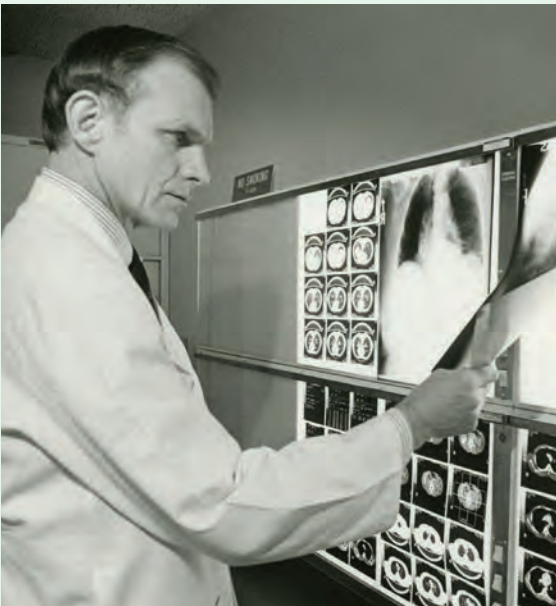


1964-1979

In January 1967, the *Heil Report* determined that it was vital for Milwaukee's future growth and the health of its citizenry to develop an academic medical center.

On September 30, 1967, Marquette University severed all ties with its medical school, which continued as a private, freestanding institution renamed the Marquette School of Medicine.

On November 4, 1967, the first kidney transplant was performed in Milwaukee under a joint program of the Marquette School of Medicine, Milwaukee County General Hospital, VA Medical Center and private physicians.



On October 21, 1968, Marquette School of Medicine cardiothoracic surgeons – led by Derward Lepley, Jr., MD '49 – performed Wisconsin's first heart transplant.

James Youker, MD, chair of the department of radiology from 1968-2014, guided its growth into a nationally recognized leader in teaching and patient care.

In November 1968, the predecessor of the Milwaukee Regional Medical Center (MRMC) was created.

The Marquette School of Medicine was renamed the Medical College of Wisconsin in 1970 to reflect the importance of the medical school to the entire state of Wisconsin.

In 1974, the state-sponsored Carley Commission recommended that MCW remain private and continue to move forward with plans for new facilities on the Milwaukee County Grounds.

In 1975, MCW launched a major campaign to fund a new \$40 million building on the MRMC campus.

In 1975, Frederick Blodgett, MD, professor and chair of pediatrics, developed the first rapid blood screening test to detect lead poisoning – which became the standard test used by public health officials throughout the US.

In 1976, Eddie Doucette and Jon McGlocklin cofounded the Milwaukee Athletes Against Childhood Cancer (MAAC) Fund. The MAAC Fund remains the largest organizational donor to MCW, with more than \$71.5 million gifted.

MCW's Eye Institute, which opened in late 1976, is the only facility in southeastern Wisconsin devoted exclusively to eye care, graduate medical education in ophthalmology and vision research.

In 1979, MCW created the Medical College of Wisconsin Affiliated Hospitals (MCWAH), which brought together the residency training programs at two county hospitals, one federal hospital and 18 private institutions.

MCW relocated its teaching, research and administrative offices to the MRMC with the opening in November 1978 of the Medical Education Building and the Basic Science Building.



1980-2000

Janis Orłowski, MD '82, served as chief healthcare officer for the Association of American Medical Colleges from 2013-2022. In 2016, she helped MCW develop a joint department of biomedical engineering with Marquette University.

The MCW Research Foundation (now known as the Office of Technology Development) was established in 1983 to support faculty research activities that produce new knowledge in many fields – which has led to new products, devices and processes that have commercial value.

In 1989, Bruce Camitta, MD, professor of pediatrics, collaborated nationally to develop medication protocols that resulted in a 90 percent cure rate for children with acute lymphocytic leukemia (previously the cure rate was 70 percent).

In 1990, MCW added a fourth mission, then known as “Community Service,” which in 2008 was renamed “Community Engagement.”

Since 1992, three MCW faculty members have been elected to the prestigious National Academy of Sciences' National Academy of Medicine: John Kampine, MD '60, PhD '65 (1992); Thomas Aufderheide, MD, GME '86, MS '11 (2009); and Stephen Hargarten, MD '75, MPH (2011).



The Graduate School of Biomedical Sciences (now the School of Graduate Studies) was established as a distinct academic school in 1995.

From 1996-2005, Allen Cowley, Jr., PhD, professor and chair of physiology, discovered that an inherited defect in the control of kidney function leads to hypertension, identified genetic causes and markers of hypertension, and discovered 46 chromosomal areas associated with hypertension.

In 1999, MCW faculty researchers Shi-Jiang Li, PhD; James Hyde, PhD; John Ulmer, MD; and Piero Antuono, MD; developed an MRI method for diagnosing Alzheimer's disease.



2001-present

In 2005, Rodney Willoughby, MD, professor of pediatrics, developed the “Milwaukee Protocol” – the world's first successful treatment for rabies – which placed a patient in a medically induced coma after being bitten by a bat.

Between 2010-2020, MCW received three five-year multimillion-dollar Clinical and Translational Science Awards from the National Institutes of Health to support the Clinical & Translational Science Institute of Southeast Wisconsin, a unique academic-community partnership for clinical and translational research and training.





MCW FUSION™



The MCW School of Medicine initiated the Discovery Curriculum in 2012, which offered a new dynamic model featuring multifaceted learning modalities.

In 2014, Aoy Tomita-Mitchell, PhD, and Michael Mitchell, MD, professors of surgery, developed a genetic diagnostic test to detect rejection of a transplanted organ and to monitor the health of transplant patients by analyzing DNA shed by the donated organ into the patient's blood.

Kulwinder Dua, MD, professor of medicine, in 2016 was the first in the world to successfully repair and regenerate a damaged esophagus that was still inside the patient.

The first class of MCW's School of Pharmacy, created to train a new generation of pharmacists and address healthcare maldistribution in Wisconsin, matriculated in August 2017.

In 2017, MCW received a \$37.8 million gift from the Kern Family and Kern Family Foundation – the largest single donation in MCW's history – to establish the Robert D. and Patricia E. Kern Institute for the Transformation of Medical Education.



In October 2023, Adina Kalet, MD, MPH, the Stephen and Shelagh Roell Endowed Chair and Director, Robert D. and Patricia E. Kern Institute for the Transformation of Medical Education, received the prestigious Association of American Medical Colleges' (AAMC) 2023 *Award for Excellence in Medical Education*, which honors an individual whose contributions have had a demonstrable impact on advancing medical education. Dr. Kalet is the first MCW faculty member to have received a national leadership award from the AAMC.

The Kern Institute, in partnership with the National Transformation Network (which includes more than 40 medical schools), is leading a movement to transform medical education across the continuum, from pre-medical school to physician practice.

In 2017, MCW faculty members Parameswaran Hari, MD, FEL '02, MS '06; Nirav Shah, MD; Bryon Johnson, PhD, FEL '92; and David Margolis, GME '92, FEL '95, launched a first-in-the-world phase I clinical trial for an innovative form of CAR T-cell therapy in individuals suffering from relapsed and refractory B-cell non-Hodgkin lymphomas.

Beginning in March 2020, MCW leaders worked to build community partnerships to help the region and state weather the COVID-19 pandemic. (*See the cover story in MCW Magazine's Summer 2023 issue.*)

In June 2022, MCW, the Greater Milwaukee Foundation and the Royal Capital Group commenced construction on the future home of the ThriveOn Collaboration north of downtown Milwaukee, which will support housing, early childhood education, health and wellness, social cohesion and economic opportunity.

In September 2022, MCW broke ground on a new 150,000-square-foot cancer research building to stimulate new synergies in science that will decrease the region's cancer burden and improve clinical outcomes. Construction of the building is expected to be completed in 2025 and is supported by \$10 million from the Wisconsin State Building Commission.

In July 2023, the MCW School of Medicine launched the MCWfusion™ Curriculum – a phased curriculum that integrates foundational science and clinical medicine. ■