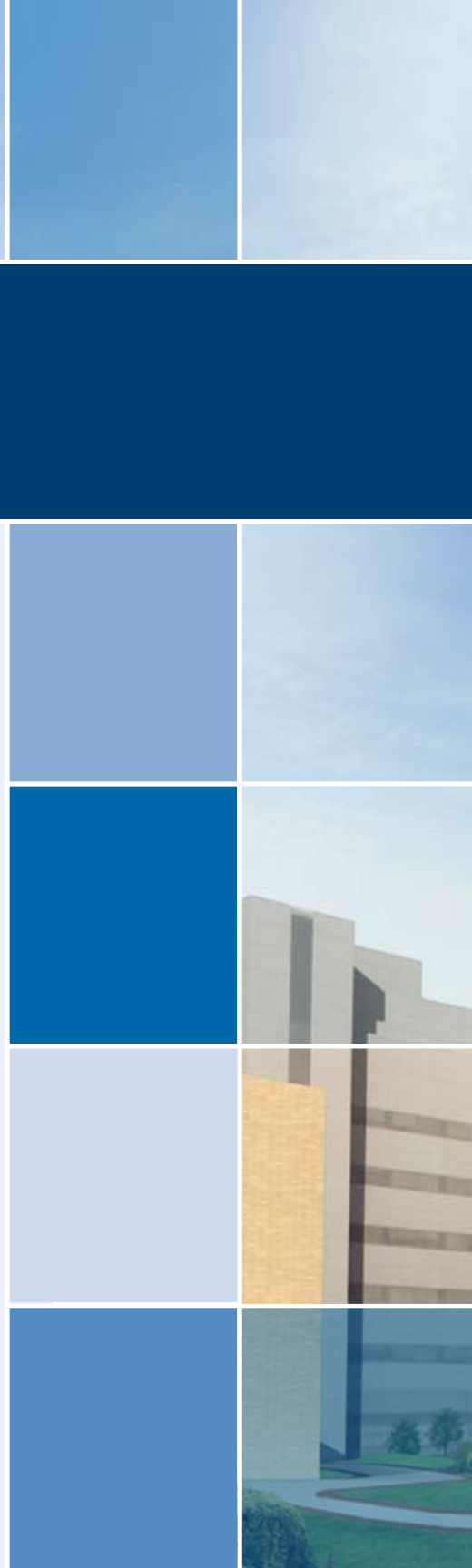




**University of Michigan
Cardiovascular Center**

300 North Ingalls Building, 8B02
Ann Arbor, MI 48109-0477

Referring Physicians
(800) 962-3555





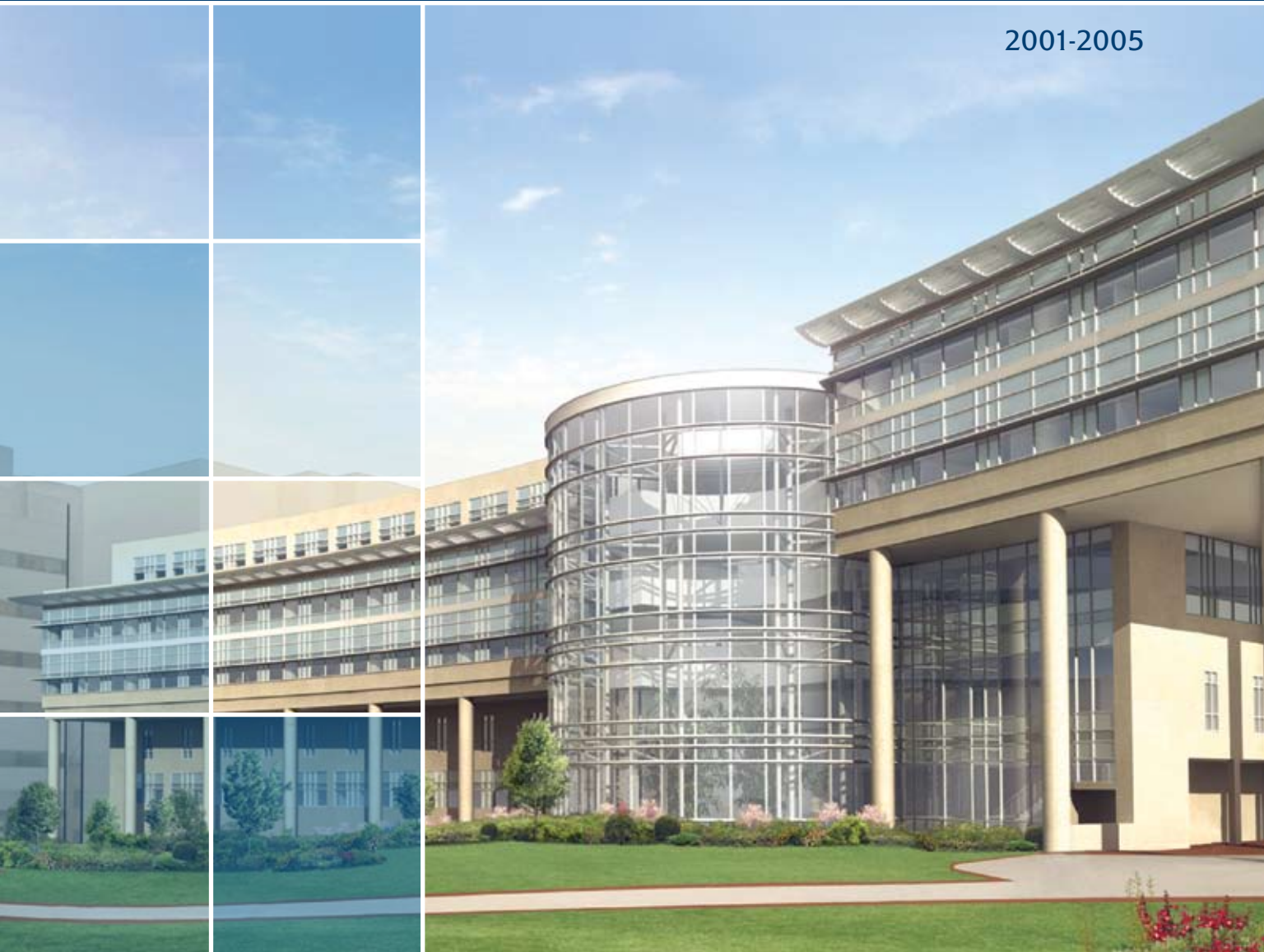
University of Michigan
Cardiovascular Center

UNIVERSITY OF MICHIGAN ADULT & PEDIATRIC

Cardiac Surgery

OUTCOMES, ADVANCES IN PATIENT CARE AND RESEARCH

2001-2005

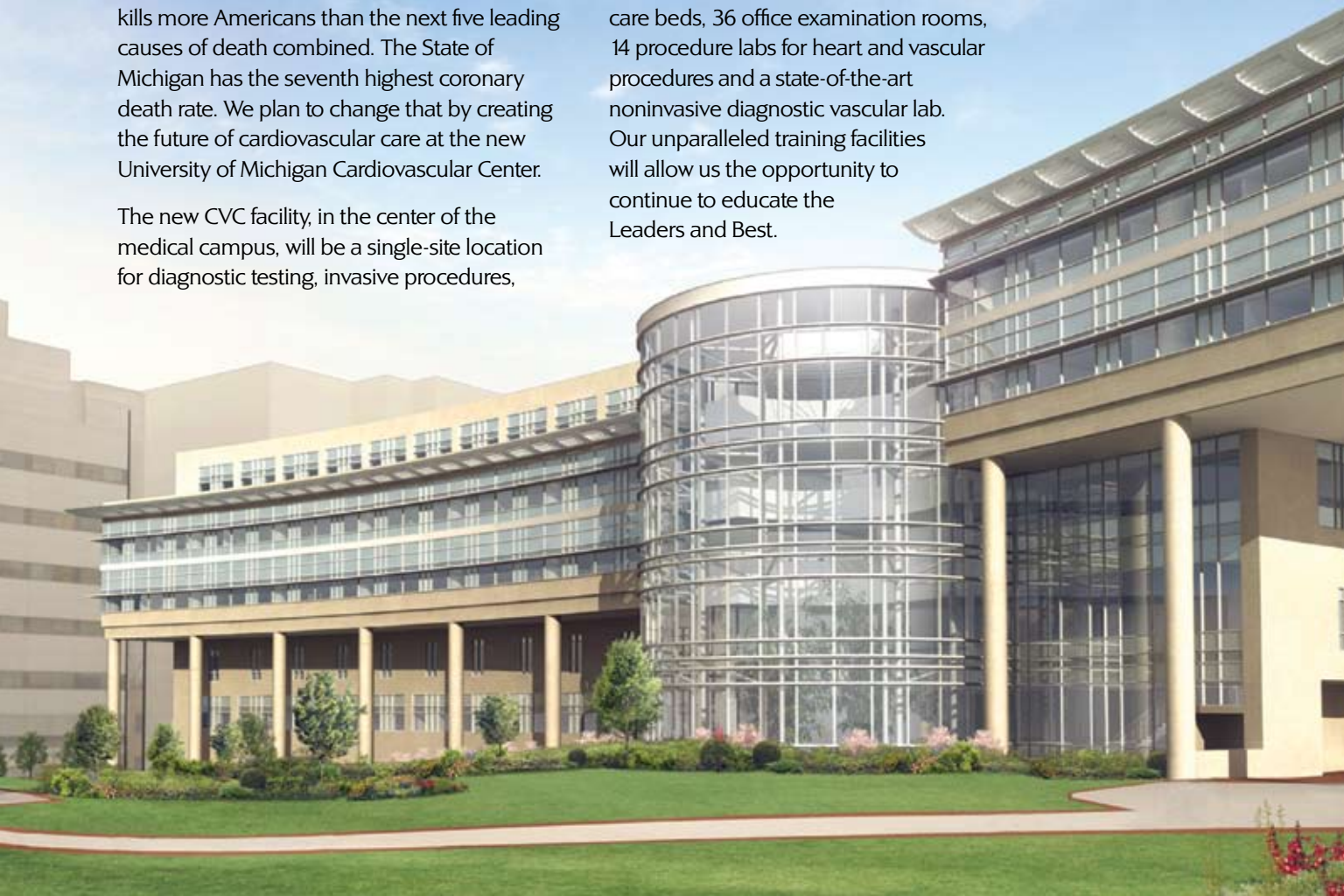


CENTERED ON LIFE... FOCUSED ON THE FUTURE

In June 2007, the University of Michigan Hospitals and Health Centers will open a 350,000 square foot Cardiovascular Center (CVC). The Center will be built upon the rich traditions of cardiovascular care at the University of Michigan. We will take on the nation's leading killer. Cardiovascular disease kills more Americans than the next five leading causes of death combined. The State of Michigan has the seventh highest coronary death rate. We plan to change that by creating the future of cardiovascular care at the new University of Michigan Cardiovascular Center.

The new CVC facility, in the center of the medical campus, will be a single-site location for diagnostic testing, invasive procedures,

major surgery and intensive inpatient care. Unlike other cardiovascular centers that are housed within larger hospitals, the new facility at the University of Michigan will include eight operating rooms dedicated to the surgical treatment of cardiac and vascular disease, 24 intensive care unit patient beds, 24 general care beds, 36 office examination rooms, 14 procedure labs for heart and vascular procedures and a state-of-the-art noninvasive diagnostic vascular lab. Our unparalleled training facilities will allow us the opportunity to continue to educate the Leaders and Best.



welcome

It is with great pleasure and extreme pride that the University of Michigan Hospitals and Health Centers offers you five years of outcomes for adult and pediatric cardiac surgery.

You know the University of Michigan as a great academic medical center where patients are treated for critical and complex health problems. At the University of Michigan Cardiovascular Center, our physicians are national and international leaders in cardiology and cardiovascular surgery. Patients are referred to us for the best care, whether it be for complex heart disease or common cardiac procedures — because there's nothing routine about cardiac care.

In the last five years, our surgeons have performed nearly 10,000 operations involving the heart with a mortality rate well below national figures. Our specialists collaborate to ensure that all patients receive the same expertise, no matter the condition — from diagnosis to treatment to cure. That's what makes the University of Michigan a leader.



Edward L. Bove, M.D.

Helen F. and Marvin M. Kirsh Professor of Cardiac Surgery
Section Head and Professor of Surgery
Section of Cardiac Surgery and Professor of Surgery
Department of Pediatrics and Communicable Diseases



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Our Hospitals

The University of Michigan Health System



University Hospital

The University of Michigan Hospital and Health Centers is comprised of three hospitals on one site. UMHC consistently ranks high on the Honor Roll of America's Best Hospitals compiled by *U.S. News & World Report*, and was ranked eleventh best in 2005. UMHC has earned a place in Solucient's Benchmark of Success list of the "100 Top Hospitals in the U.S.," and 294 physicians from the University of Michigan Health System were named to the 2005-2006 "Best Doctors in America" list. UMHS is the only hospital in Michigan to fully meet or surpass all of the health care quality measures set by the Michigan Health and Safety Coalition. The University of Michigan Cardiovascular Center was named by Solucient as one of the nation's top 100 cardiovascular centers for 2005.



C.S. Mott Children's Hospital

C.S. Mott Children's Hospital is known worldwide for its excellent clinical, educational and research programs. Experienced and innovative colleagues with diverse expertise collaborate to provide the highest quality family-centered care for pregnant women, newborns, children and adolescents.

Surgeons at the University of Michigan Congenital Heart Center were among the first in the nation to perform open heart surgery in the 1950s on children, and they continue to pioneer surgical procedures to correct congenital heart defects.



Veteran's Administration Ann Arbor Healthcare System

The VA Ann Arbor Healthcare System provides care to nearly 22,000 veterans in Southeast Michigan and Northwest Ohio.

The VA Hospital offers numerous specialty care programs, including a cardiac care center. The VA Hospital also has a comprehensive research program in many areas of study, including cardiovascular disease. As a teaching facility, the VA Hospital provides training to more than 1,100 students and health care professionals a year.



Crittenton Hospital Medical Center

Crittenton Hospital Medical Center offers the communities of Oakland, Macomb and Lapeer counties the highest quality cardiac surgery.

Since first opening its doors in 1967, Crittenton has prided itself on being the modern image of a community hospital, one that offers complete quality medical care with compassion.

The unique partnership with the Section of Cardiac Surgery at the University of Michigan allows Crittenton Hospital to offer a comprehensive cardiac surgical program.

congenital Cardiac Care – Pediatric

The University of Michigan Cardiovascular Center



SAVING CHILDREN'S LIVES

At the University of Michigan, we perform more pediatric procedures than nearly all other programs across the country, including approximately 900 total cardiac operative procedures annually, 600 of which are open heart procedures. We also perform 700 diagnostic cardiac catheterizations and 200 interventional catheterizations each year.

We specialize in the management of complex congenital heart disease, with an emphasis on the single ventricle patient. While patient care remains our priority, we also are committed to teaching the next generation of specialists and performing clinical research to improve the lives of all patients with congenital heart disease throughout the world.



Angiogram of a Hemi-Fontan Procedure (Stage II of III for single ventricle lesions).

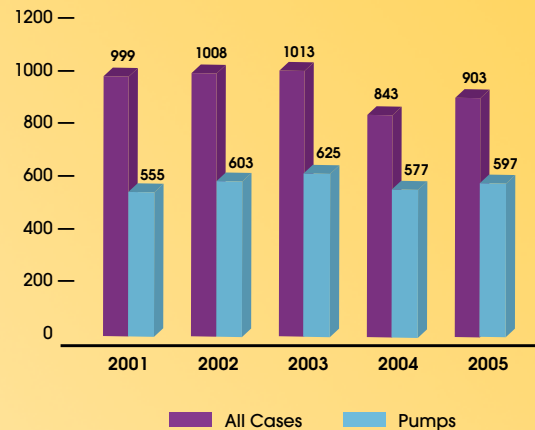


Our new Women and Children's Hospital will open in 2011.

Over 20,000 children have been cared for since the program began in 1985. This makes us one of the most experienced programs in the country.

With expertise and great skill in surgical intervention of complex congenital heart defects of infants, children and adults, the University of Michigan Congenital Heart Center is an important place for many families. The clinical faculty includes dedicated pediatric cardiac intensivists, a step down unit, and general care units with specialized staff caring only for patients with congenital or acquired heart disease.

Congenital Cardiac Case Volume



Congenital Cardiac Care – Pediatric

The University of Michigan Cardiovascular Center

The Congenital Heart Center serves both children and adults with congenital heart disease.

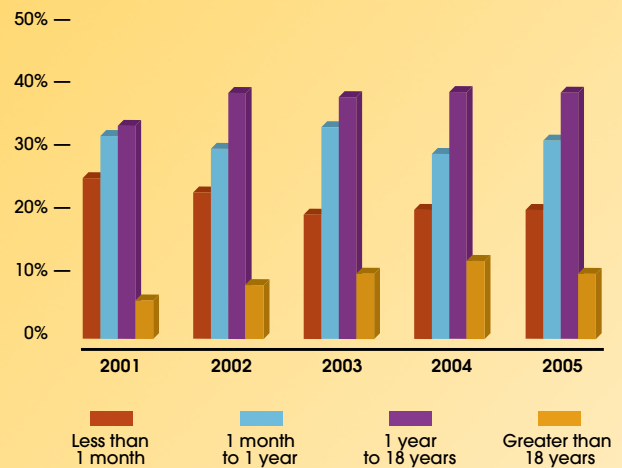
Approximately half of the patients treated at our program are less than one year old. Patients treated at the University of Michigan come from around the country and around the world, some traveling from as far away as Guatemala and Malaysia.



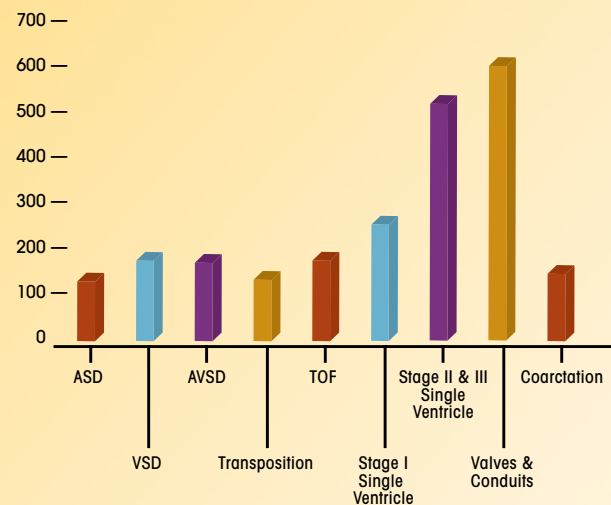
A single ventricle patient who has completed all of his staged repair procedures at the University of Michigan.

Early complete repair for suitable cardiac defects are performed whenever possible using innovative, evidence-based medicine. The overall success rates are nearly unrivaled by most other institutions in the United States. Our success rates for complex congenital heart defects such as Hypoplastic Left Heart Syndrome are excellent and we perform more of these procedures each year than any other program nationally.

Pediatric Age Distribution by Year at C.S. Mott Children's Hospital



Major Procedure Categories 2001 - 2005



Patients and Families First

The University of Michigan Cardiovascular Center

INTEGRATED CARE

The University of Michigan cardiac surgical tradition dates back to the mid 1950s, and has evolved into multiple areas of unique expertise and care. Our surgeons have focused on the treatment and repair of complex cardiac problems from neonates to the geriatric patient population.

These programs involve experts from the multiple disciplines of cardiac surgery, cardiology, radiology and vascular surgery, helping to define and create the most appropriate treatment plan for the patient.

The specialty clinics at the University of Michigan Cardiovascular Center include:

- Adult Congenital Program
- Pediatric Congenital Program
- Operative and Endovascular Treatment of Aortic Diseases Program
- Ischemic Heart Disease Program
- End Stage Heart Failure and Transplant Program
- Circulatory Support Program
- Aortic Valve Program
- Mitral Valve Program

Customer satisfaction surveys indicate that 95.8% of patients treated at the University of Michigan Section of Cardiac Surgery would return to our program for their medical care.



Excellent and coordinated service is an essential component of patient care in the Cardiovascular Center at the University of Michigan. Our team of nurses; technicians; nurse practitioners; physician assistants; physical, respiratory and occupational therapists; critical care faculty; and clerical and secretarial staffs all contribute to the patient and referring physician experience.

Adult Cardiac Surgery

The University of Michigan Cardiovascular Center

CARDIAC SURGERY

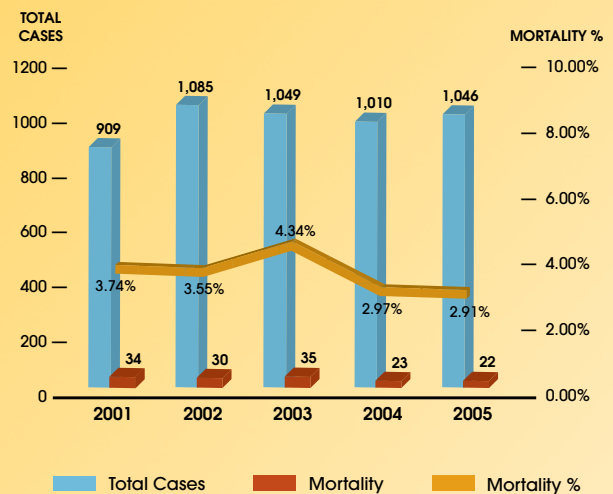
The University of Michigan Health System is a global leader in all aspects of health care. Our surgeons treat heart conditions ranging from common to the most complex. We have national leaders with areas of expertise in coronary revascularization, complex aortic surgery, cardiac transplantations, valvular surgery and mechanical circulatory support.

The University of Michigan programs in cardiac surgery have the highest total volume for adult and pediatrics in the state, performing nearly 2,000 cardiac cases annually and nearly 10,000 cases over five years.

Expertise by the Numbers

In the last five years, the University of Michigan has performed nearly 10,000 adult and pediatric cardiac operations with an exceptionally low operative mortality rate. In 2002, the University

Overall Volume and Operative Mortality for University of Michigan Programs



of Michigan Section of Cardiac Surgery began tracking Veteran's Administration Hospital cardiac surgery volumes with the University Hospital volumes. We have since added Crittenton Hospital to our total volume. Even with this increase in total operations, the University of Michigan has experienced an overall decrease in mortality.

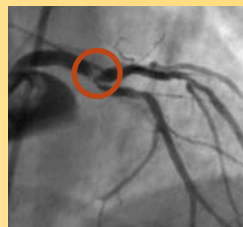
Coronary Artery Bypass Grafting - Adult

The University of Michigan Cardiovascular Center

The Cardiovascular Center offers easy access for physicians to obtain consults and updates from attending physicians. Referring physicians can receive same-day catheterizations for their patients.

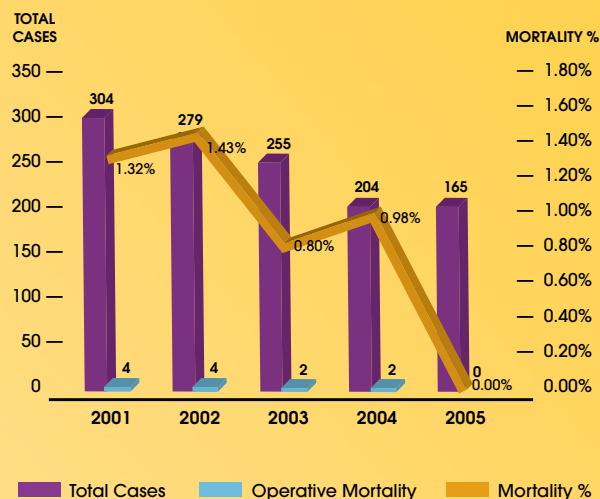


64-slice Coronary CT angiogram showing patent Internal Mammary Artery and vein grafts 10 years after bypass.



Coronary angiogram showing severe left main coronary artery obstruction.

Isolated CABG: Overall Volume and Operative Mortality



With increasing risk modification, improved medical treatments and advanced interventional approaches to coronary artery disease the number of patients considered for coronary bypass has declined while the risk factors and comorbidities have increased in this group. Despite this, mortality at the University of Michigan for isolated coronary bypass has been less than 1% for the last three years. In 2005, there were no operative deaths.

National Benchmarks - Adult

The University of Michigan Cardiovascular Center

The CVC was named one of the nation's top 100 cardiovascular centers for 2005 by Solucient, Inc., which bases its rankings on measures of top-quality and high-value care, including success in preventing deaths and complications among all patients, the number and quality of operations and procedures performed, how quickly patients are able to return home, and cost-related measures. Visit www.med.umich.edu/cvc/proud.htm for more information.

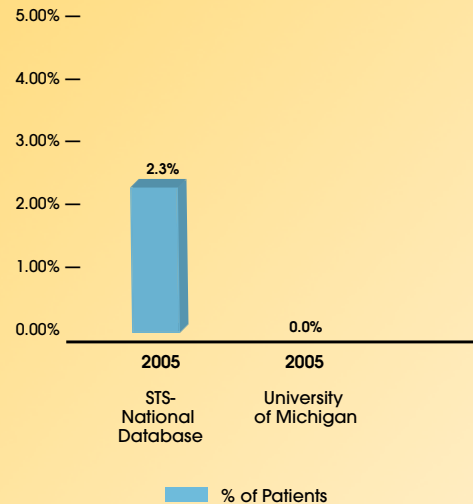


BELOW NATIONAL BENCHMARKS

Mortality Rates Remain Low

Over 1,200 isolated coronary bypass procedures have been performed at the University Hospital over the last five years with an overall mortality rate less than 1%.

Operative Mortality



At the Cardiovascular Center at the University of Michigan Health System, we treat the whole person. Our physicians offer preventative and support programs to minimize the impact of the disease.

Aortic Procedures - Adult

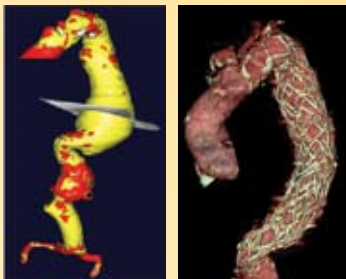
The University of Michigan Cardiovascular Center

Our multi-disciplinary approach to patient care allows our specialists to collaborate to determine the best options for patients.

AORTIC PROCEDURE VOLUME

In the last five years, the number of aortic procedures has increased dramatically, more than doubling in 2004.

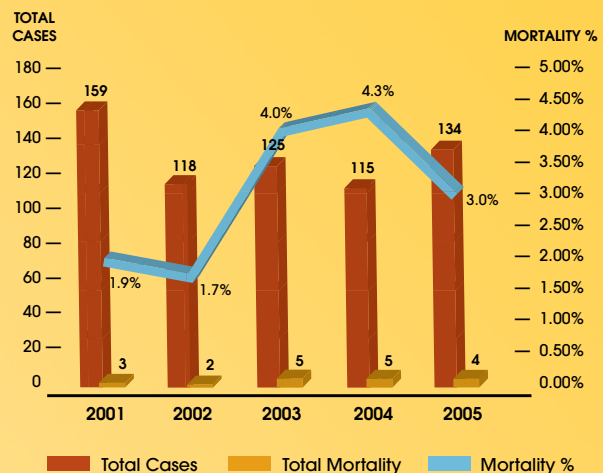
The treatment of complex aortic disease requires a multi-disciplinary approach to the problem. At the University of Michigan, we offer extensive surgical options for open repair of aortic aneurysms, as well as endovascular stenting. Our cardiac surgeons perform both open and endovascular approaches for thoracic aortic repair.



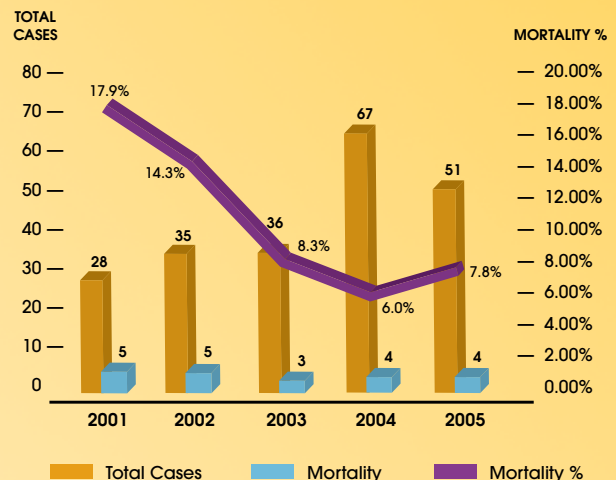
Left: Descending Thoracic Aortic Aneurysm

Right: Thoracic Aorta after Endovascular Repair

Complex Aortic Procedures With Aortic Valve Replacement, and Operative Mortality



Complex Aortic Procedures Without Aortic Valve Replacement, and Operative Mortality



Mitral Valve Procedures - Adult

The University of Michigan Cardiovascular Center

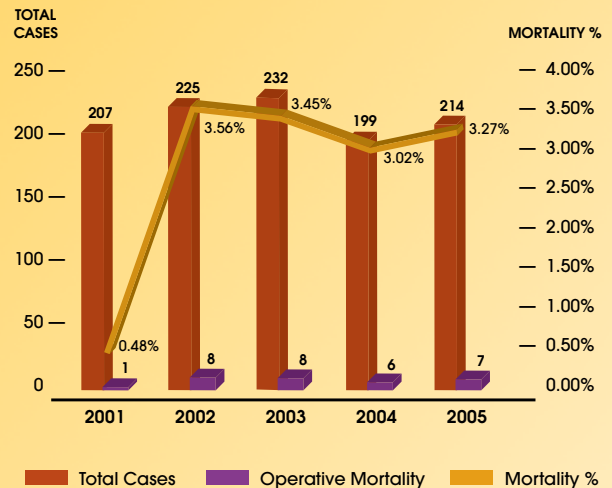
VALVULAR HEART DISEASE

The volume of valve surgery performed at the University of Michigan Hospitals is the highest in the State of Michigan. Despite a growing geriatric population and the risks associated with operations in the elderly, our outcomes have remained excellent.

We have surgeons who not only have performed the operations, but have helped in the development of improved heart valves used for implantation.

Our surgeons are internationally known experts in performing complex mitral valve repair operations. Repair of the patient's native valve is performed far more often than total replacement with a prosthetic valve. Highly complex mitral valve repair techniques include anterior and posterior leaflet repair and reconstruction as well as chordal repair and construction.

Isolated Aortic or Mitral Valve Repair or Replacement



Medtronic Freestyle
Stentless Aortic
Valve Prosthesis



Edwards LifeSciences Geoform
Mitral Valve Ring

Heart Transplant - Adult

The University of Michigan Cardiovascular Center

Since 1984, the University of Michigan surgeons have performed nearly 600 heart transplants and 13 heart/lung transplants, including several multiorgan transplants. The mortality rate remains exceptionally low.

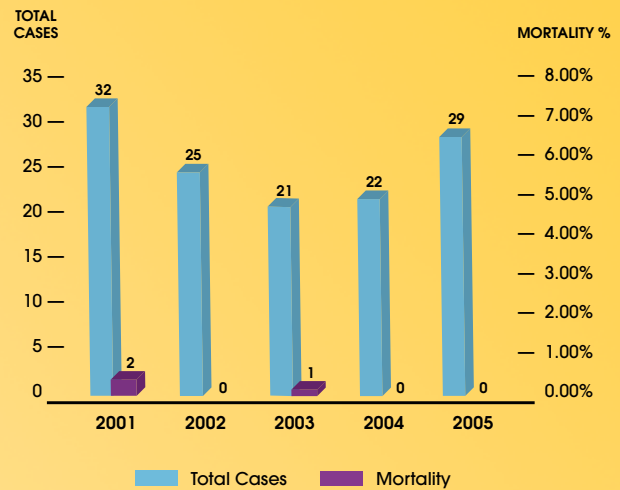
A WELL-RESPECTED LEADER

In 1968, the University of Michigan performed the first heart transplant in the state. The heart transplant program at the Cardiovascular Center continues to stand in the forefront of cardiac transplantation around the country.



HeartMate II, Left Ventricular Assist Device, Thoratec Corporation

Heart Transplant: Total Volume and Mortality



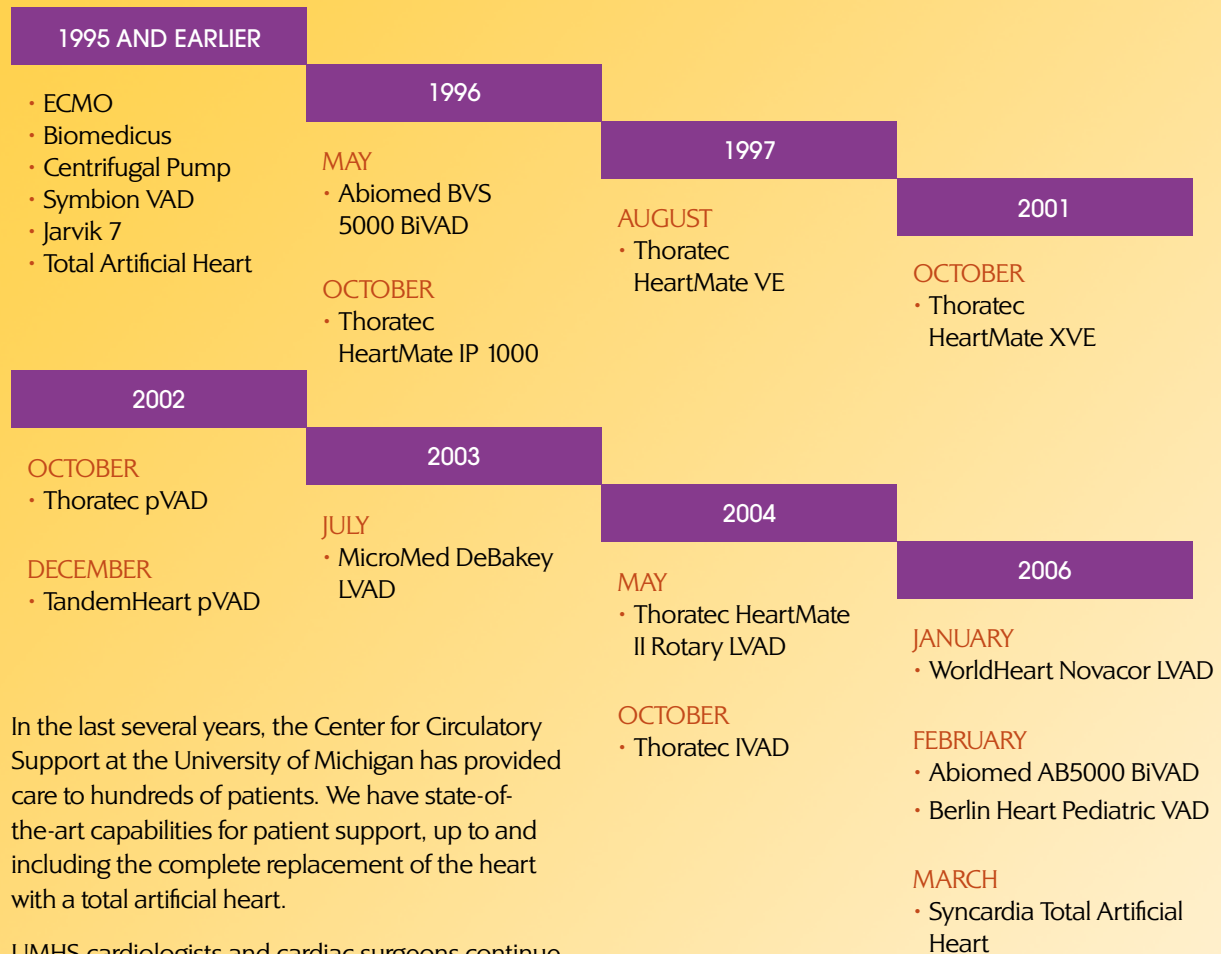
VAD Implant Cases



Mechanical Circulatory Support - Adult

The University of Michigan Cardiovascular Center

HISTORY OF MECHANICAL SUPPORT CAPABILITIES AT THE UNIVERSITY OF MICHIGAN



In the last several years, the Center for Circulatory Support at the University of Michigan has provided care to hundreds of patients. We have state-of-the-art capabilities for patient support, up to and including the complete replacement of the heart with a total artificial heart.

UMHS cardiologists and cardiac surgeons continue to improve the lives of patients with failing hearts by implanting a pumping device for those awaiting heart transplantation and patients too ill to undergo a heart transplant. We are able to provide assistance to adults as well as pediatric patients.

CRITICAL CARE

The current 14-bed Cardiovascular Intensive Care Unit provides care to critically ill adult patients with all disease processes involving the thoracic organs. The new cardiovascular intensive care unit in the Cardiovascular Center will expand its capacity to care for 24 patients.

Management of patients in our CVICU is multidisciplinary, with responsibility for major clinical decisions shared between the cardiothoracic surgeons and the critical care intensivists. The unit is staffed 24 hours per day with physicians and advanced practice nurses and physician assistants.

Unique services provided include the care of an array of implantable circulatory support devices, such as the Heartmate left ventricular assist device (LVAD) systems and the Cardiwest Total Artificial Heart. In addition, our staff is trained in the care of patients on extracorporeal support, including the TandemHeart percutaneous LVAD and Abiomed biventricular support devices.



Dr. Robert Bartlett, Professor of Surgery, with the membrane oxygenator that he helped develop for use in the ECMO circuit.



ICU care is provided by a multidisciplinary team that includes physicians, nurse practitioners, dietitians, respiratory therapists, pharmacists, nurses and other staff.

We also are experienced at initiating and caring for patients who require extracorporeal membrane oxygenation (ECMO). ECMO is a form of life support for patients with severe and abrupt heart and/or lung failure. The University of Michigan provides ECMO support for approximately 100 patients per year, from newborns to adults. Our multidisciplinary team consists of cardiac, general and pediatric surgeons, as well as nurses, respiratory therapists and cardiopulmonary perfusionists.

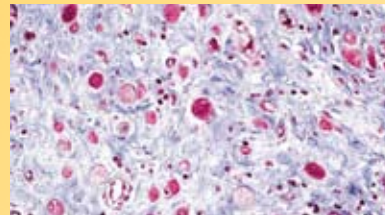
DISCOVERING HOPE FOR THE FUTURE

With the cross-disciplinary focus that the University of Michigan Cardiovascular Center provides, our researchers are able to expand their clinical and basic research of the genetic and biochemical underpinnings of cardiovascular and congenital heart disease.

What We're Doing

- University of Michigan researchers have engineered a model for growing functional heart tissue that can be used to replace the heart muscle damaged in patients suffering from congestive heart failure.
- Researchers developed three models of contractile heart muscle in vitro.
- Experts are currently replicating signals for contractile response to eventually match contractile performance of tissue engineered heart muscle with that of normal myocardial tissue.
- University of Michigan researchers have engineered a cell-based cardiac pump composed of synthetic tubular graft with interconnected cardiac myocytes and have shown that these pumps have a functional performance similar to normal ventricles.
- Our researchers are working on functional heart valves using polymeric scaffolding materials.

- University of Michigan researchers are using gene therapy proteins to improve heart function for those in heart failure.
- Experts are studying samples from failing hearts at the time of transplantation to improve functions of transplanted hearts.



Left: A photomicrograph of the human heart demonstrating growth of human skeletal muscle (pink structures) within an area of scar (blue) caused by a heart attack. The skeletal muscle was injected at the time of surgery in a patient undergoing implantation of a ventricular assist device as a bridge to heart transplantation.

Right: We have developed a method to engineer contractile 3-D cardiac muscle (termed cardioids). Cardioids exhibit several physiological metrics of function that closely resemble human heart muscle. The cardioid model has tremendous clinical applicability.

Our Cardiovascular Surgeons & Faculty

The University of Michigan Cardiovascular Center

PEDIATRIC CARDIAC SURGEONS



Edward L. Bove, M.D.

- Professor and Head, Section of Cardiac Surgery
- Director, Division of Pediatric Cardiac Surgery
- Co-Director, Michigan Congenital Heart Center

Dr. Bove received his medical degree from Albany Medical College. He completed his Thoracic Surgery residency at the University of Michigan. He did his fellowship in Pediatric Cardiac Surgery at the Great Ormond Street Hospital for Sick Children in London, England. Dr. Bove is particularly interested in the care of patients who require congenital heart surgery. He has a special interest in the care of patients with hypoplastic left heart syndrome, neonatal heart surgery, single ventricle, heart and lung transplantation, and the Ross procedure. Dr. Bove's research interests focus on neonatal heart function, hypoplastic left heart syndrome and computational flow dynamics of single ventricle surgery.



Eric J. Devaney, M.D.

- Assistant Professor of Surgery, Section of Cardiac Surgery

Dr. Devaney received his medical degree from the University of California Los Angeles School of Medicine. He completed his Thoracic Surgery residency and Pediatric Cardiac Surgery fellowship at the University of Michigan. Dr. Devaney specializes in the care of patients who have congenital heart disease, including early neonatal corrective surgery for congenital heart disease and the use of mechanical circulatory support for the treatment of heart failure. Dr. Devaney's research interests include the study of the molecular biology of cardiomyopathy.

Our Cardiovascular Surgeons & Faculty

The University of Michigan Cardiovascular Center

PEDIATRIC CARDIAC SURGEONS



Richard Ohye, M.D.

- Assistant Professor of Surgery, Section of Cardiac Surgery
- Director, Pediatric Cardiovascular Transplant Program
- Director, Thoracic Surgery Residency Program

Dr. Ohye received his medical degree from Ohio State University. He completed his Thoracic Surgery residency at Ohio State and his Pediatric Cardiac Surgery fellowship at the University of Michigan. Dr. Ohye specializes in the care of patients who have congenital heart disease. His clinical interests also include pediatric cardiac transplantation. Dr. Ohye's research centers on congenital heart surgery, pediatric cardiac transplantation and multi-center outcomes research in congenital heart disease.



Jennifer C. Hirsch, M.D.

- Instructor of Surgery, Section of Cardiac Surgery

Dr. Hirsch received her medical degree from Harvard Medical School. She completed her Thoracic Surgery residency and Pediatric Cardiac Surgery fellowship at the University of Michigan. Dr. Hirsch specializes in the care of patients with congenital heart disease. Her clinical interests include extracorporeal membrane oxygenation (ECMO) and the critical care management of surgical patients. Dr. Hirsch's research interests focus on health service-based clinical outcomes research.

Our Cardiovascular Surgeons & Faculty

The University of Michigan Cardiovascular Center

ADULT CARDIAC SURGEONS



Richard L. Prager, M.D.

- Professor of Surgery, Section of Cardiac Surgery
- Head, Division of Adult Cardiac Surgery
- Co-Director, Cardiovascular Center

Dr. Prager received his medical degree from the State University of New York in Brooklyn. He completed his Thoracic Surgery residency at the University of Michigan. Dr. Prager has extensive clinical experience in cardiac and thoracic surgery. He maintains an ongoing interest in cardiac surgery outcomes and systems for patient safety, as well as resident education. He is a member of the Society of Thoracic Surgeons workforce on the national database, and the chairman of the quality initiative for the Michigan Society of Thoracic and Cardiovascular Surgeons.



Steven F. Bolling, M.D.

- Professor of Surgery, Section of Cardiac Surgery
- Gayle Halperin Kahn Professor of Integrative Medicine
- Director, Multidisciplinary Mitral Valve Clinic
- Director, Myocellular Biology Laboratory

Dr. Bolling received his medical degree from the University of Michigan Medical School. He completed his Thoracic Surgery residency at Johns Hopkins Hospital. Dr. Bolling's clinical interests include mitral valve reconstruction and cardiac remodeling. Dr. Bolling's research includes the study of myocardial protection and transplant immunology, as well as the molecular biology of heart failure, with a special interest in myocyte signal transduction.

Our Cardiovascular Surgeons & Faculty

The University of Michigan Cardiovascular Center

ADULT CARDIAC SURGEONS



G. Michael Deeb, M.D.

- Professor of Surgery, Section of Cardiac Surgery
- Herbert Sloan Professor of Cardiac Surgery
- Director, Multidisciplinary Aortic Clinic

Dr. Deeb received his medical degree from the University of Pittsburgh. He completed his Thoracic Surgery residency at the University of Pittsburgh. Dr. Deeb's clinical interests include the treatment of patients with aortic valve disease as well as complex disorders of the aorta including aneurysm and dissection. Dr. Deeb's research focuses on pathophysiology and epidemiology of aortic valve disease, and aortic diseases.



Jonathan Haft, M.D.

- Assistant Professor of Surgery, Section of Cardiac Surgery
- Director, Extracorporeal Life Support Program, University of Michigan

Dr. Haft received his medical degree from the University of Miami. He completed his Thoracic Surgery residency at the University of Michigan. Dr. Haft's clinical interests include the treatment of adults who require cardiac surgery, heart and lung transplantation, cardiac assist devices, extracorporeal membrane oxygenation and critical care. Dr. Haft's research focus is on the design and testing of an implantable artificial lung for chronic respiratory failure.

Our Cardiovascular Surgeons & Faculty

The University of Michigan Cardiovascular Center

ADULT CARDIAC SURGEONS



Francis D. Pagani, M.D., Ph.D.

- Associate Professor of Surgery, Section of Cardiac Surgery
- Director, Heart Transplantation and Center for Circulatory Support

Dr. Pagani received his medical degree from Georgetown University. He completed his Thoracic Surgery residency at the University of Michigan. Dr. Pagani specializes in the care of patients with acquired heart diseases, heart transplantation and those requiring mechanical assist devices. Dr. Pagani's research focuses on artificial heart devices, transplant immunology and cellular transplantation.



Himanshu J. Patel, M.D.

- Assistant Professor of Surgery, Section of Cardiac Surgery
- Chief, Cardiothoracic Surgery Service, Veterans Administration Hospital

Dr. Patel received his medical degree from The Johns Hopkins School of Medicine. He completed his Thoracic Surgery residency at the University of Michigan. Dr. Patel's clinical interests focus on the treatment of adults with complex cardiac diseases. He has extensive training in the use of endovascular grafting for the treatment of aortic aneurysms. Dr. Patel's research interests include outcomes related to aortic valve surgery and the operative and endovascular treatment of aortic diseases.



Martinus T. Spoor, M.D.

- Clinical Instructor, Section of Cardiac Surgery

Dr. Spoor received his medical degree from the University of Calgary Canada. He completed his Thoracic Surgery residency at the University of Alberta Canada. Dr. Spoor completed fellowships in mitral valve repair, heart failure surgery, extracorporeal membrane oxygenation and critical care at the University of Michigan. Dr. Spoor's clinical interests include the treatment of heart failure, extracorporeal membrane oxygenation and critical care. Dr. Spoor's research focuses on cardiac surgery outcomes with an emphasis on the elderly.

Our Cardiovascular Surgeons & Faculty

The University of Michigan Cardiovascular Center

ADULT / CRITTENTON CARDIAC SURGEONS



Frank L. Fazzalari, M.D.

- Assistant Professor of Surgery, Section of Cardiac Surgery
- Director of Adult Cardiac Surgery, Crittenton Hospital, Rochester, Michigan

Dr. Fazzalari received his medical degree from the University of Michigan Medical School. He completed his General Surgery residency at the University of Michigan and his Cardiothoracic Surgery residency at Massachusetts General Hospital/Harvard Medical School in Boston. Dr. Fazzalari completed his Extracorporeal Life Support/ECMO and Critical Care fellowships at the University of Michigan. Dr. Fazzalari has a broad interest in adult cardiac surgery.



Gaetano Paone, M.D.

- Assistant Professor of Surgery, Section of Cardiac Surgery
- Attending Surgeon, Crittenton Hospital, Rochester, Michigan

Dr. Paone received his medical degree from New York University School of Medicine. He completed his Surgery residency at New York University Medical Center and his Thoracic Surgery residency at the University of Illinois. Dr. Paone has a broad interest in adult cardiac surgery.

Our Cardiovascular Researchers

The University of Michigan Cardiovascular Center

RESEARCHERS



Ravi Birla, Ph.D.

- Research Investigator, Section of Cardiac Surgery

Dr. Birla received his Ph.D. in Biomedical Engineering from the University of Michigan. Dr. Birla began his career as a research scientist for the Section of Cardiac Surgery at the University of Michigan in 2004. His research is focused on the development of new technologies for cardiovascular tissue engineering with the goal of tissue replacement in a clinical setting.



Margaret Westfall, Ph.D.

- Research Investigator, Section of Cardiac Surgery
- Assistant Professor of Surgery
- Assistant Professor, Department of Physiology

Dr. Westfall received her Ph.D. in Physiology from Loyola University in Chicago. Dr. Westfall's research interests include understanding the contractile protein structure and function in the intact cardiac myocyte; the regulation of contractile proteins by intercellular signals; and the role of contractile proteins in cardiac pathophysiology.

Our Vision & Mission

The University of Michigan Health System

OUR VISION

The University of Michigan Cardiovascular Center will be the best academic heart and vascular center in the world.



Dr. Himanshu Patel and Dr. Michael Deeb.

OUR MISSION

The University of Michigan Cardiovascular Center will be a premier center creating an understanding of cardiovascular disease across the life span, through multidisciplinary collaboration between clinicians and scientists, to achieve:

- Superior compassionate patient care
- Innovative science and discovery
- Excellence in education

OUR CORE VALUES

We, the staff and faculty of the Cardiovascular Center team are committed to advancing medicine and serving humanity through **living** and **teaching** our core values of:

- **Respect & Compassion**
We honor and care for one another as individuals.
- **Collaboration**
We honor the synergy of team, built on trust.
- **Innovation**
We honor individual and collective creativity.
- **Commitment to Excellence**
We honor the intrinsic desire to be “Leaders & Best.”

Physician Directory

The University of Michigan Cardiovascular Center



Dr. Kim Eagle (left) and Dr. Francis Pagani



Dr. Himanshu Patel (left) and Dr. Mauro Moscucci.

We look forward to working with you to provide care for your patients. Please contact us directly to obtain a consultation or to make an appointment.

Adult Cardiac Surgery

- Dr. Richard Prager, Head,
Division of Adult Cardiac Surgery (734) 936-4974
- Dr. Steven Bolling (734) 936-4981
- Dr. G. Michael Deeb (734) 936-4984
- Dr. Jonathon Haft..... (734) 936-7671
- Dr. Francis Pagani (734) 647-2894
- Dr. Himanshu Patel (734) 615-4193
- Dr. Martinus Spoor (734) 936-4974

Adult Cardiac Surgery / Crittenton

- Dr. Frank Fazzalari..... (248) 601-6190
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- Dr. Eric Devaney (734) 936-4978
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