



# Cardiovascular Service Line

*2023 Capabilities & Outcomes Report*

Cardiac Surgery • Cardiology  
Interventional Radiology • Vascular Surgery



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# Dear Colleagues

We are excited to share our updated 2023 Cardiovascular Capabilities and Outcomes Report. The administrative and clinical leadership teams at Trinity Health Ann Arbor & IHA are proud to showcase our key programmatic updates and high quality outcomes for our Cardiology, Cardiac Surgery, Vascular Surgery and Interventional Radiology subspecialties. Our highly experienced and trained clinicians are continuing to grow and advance our cardiovascular program along the full continuum of care with the patient at the center of all we do. Our regional presence continues to expand with services being offered in the following communities: Brighton, Livingston, Canton, Chelsea and Livonia.

We have implemented many new initiatives this past year aimed at improving the patient's experience. These initiatives include:

- **Same day discharge program in the CATH and EP labs** – Patients who have procedures in the Cath or EP lab are now able to go home the same day due to a quicker recovery process.
- **Next day discharges for eligible TAVR patients** – Patients who have TAVR surgery have a shorter recovery period and less restrictions than those who have open heart surgery.
- **Rapid ED follow-up program** – This program was designed to ensure select chest pain patients designated to be safe for discharge with early follow up, are able to be seen rapidly by a cardiologist within two business days of their discharge.
- **Echo School to improve access to testing** – Trinity/ Michigan Heart Sonography School is a 52 week certificate program for internal or external candidates that will train and educate the students in the field of cardiac sonography. The program will be housed within Michigan Heart and various sites within Trinity to get the full scope of being a sonographer, while also getting a top education that will prepare them for a position as an adult cardiac sonographer.

At Trinity Health Ann Arbor, our goal is to deliver remarkable care to each and every patient. Our cardiovascular team strives to be leaders in clinical excellence by providing the highest quality care that is patient focused, easily accessible and cost effective. We are grateful to our physician partners and hope you find this information educational and useful in the care of your patients.

Sincerely,



Alonzo Lewis, MHA,  
President, Trinity Health  
Ann Arbor & Livingston



Cindy Elliott, RN, FACHE  
President, Trinity Health Michigan  
Medical Groups

# Achievements



**Blue  
Distinction®  
Center+**  
for Cardiac Care

## Healthgrades: America's 100 Best

- America's 100 Best Hospitals Award - 2019, 2020, 2021, 2022
- American's 250 Best Hospitals Award - 2019, 2020, 2021, 2022
- Outstanding Patient Experience Award- 2019, 2020, 2021, 2022
- America's 100 Best Hospitals for Cardiac Care Award - 2019, 2020, 2021
- Critical Care Excellence Award - 2019, 2020, 2021

## Program Overview

- Award winning program with 50 years of experience providing high quality cardiovascular care
- Dedicated collaborative team of cardiologists, cardiac and vascular surgeons and interventional radiologists
- Comprehensive approach treating the full spectrum of cardiovascular disease
- Community based outreach to improve overall population health

## Highlights:

- High volume center
- Enhanced access for patient referrals
- Innovative techniques
- High quality patient outcomes

Trinity Health's Structural Heart and Valve Disease program offers the most advanced approaches for treating structural heart disorders and we have treated over **1,103 patients** since the program's inception.

.....  
**High Volume Center**  
.....

.....  
**Innovative Techniques**  
.....

.....  
**High Quality Outcomes**  
.....

.....  
**Enhanced Access**  
.....

## Patients eligible for valve replacement:

- Have severe aortic valve narrowing
- Complain of shortness of breath, tiredness, chest pain or dizziness

**For referrals or additional information, please contact our Structural Heart Nurse Navigators: 734-712-2524**

# Coronary Artery Disease

Trinity Health is dedicated to providing remarkable care to our acute heart attack patients. In 2022, we treated over 720 patients with myocardial infarction. We work to ensure the exceptional care delivered by our referring physicians is continued when patients require coronary intervention. We closely track our quality metrics through participation in multiple national registries and employ various strategies to ensure our increasing volumes meet our clinical outcome standards.

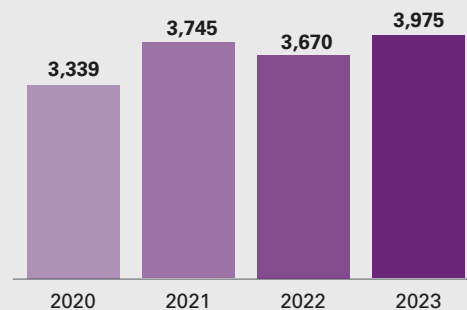
For patients with complex multivessel disease, we offer a team approach to coronary artery disease through our multidisciplinary heart team, balancing the various coronary approach options through careful patient-centered consideration.

Trinity Health cardiovascular surgeons and cardiologists are highly trained, board certified and dedicated to ensuring that patients obtaining coronary treatment receive outstanding evidenced based care.



## Total Catheterization Lab Procedures: Annual Volumes

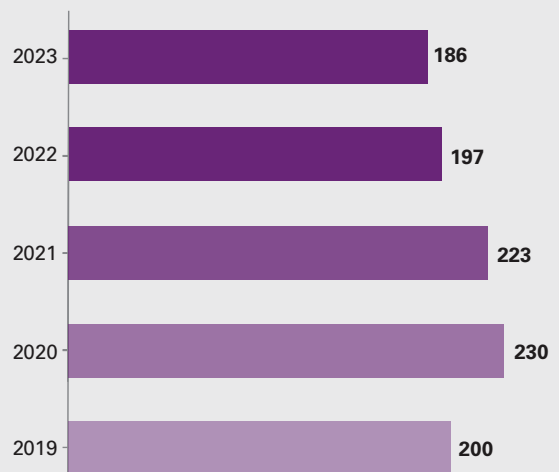
High Volume Center



Data Source: Internal Data

## STEMI Volumes

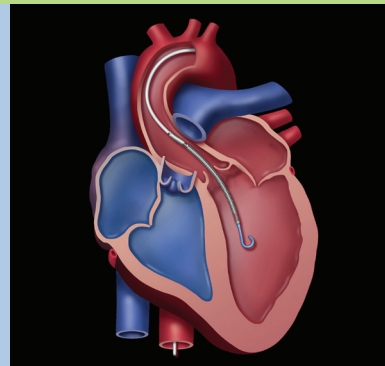
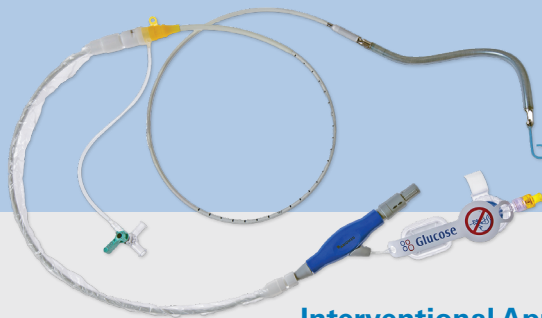
High Volume Center



Data Source: Internal Data

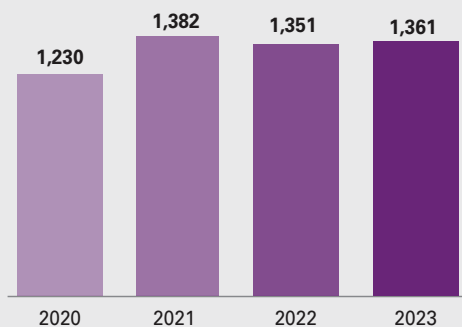


# Mechanical Circulatory Support Devices & Our Other High Tech Offerings.



## PCI Volume

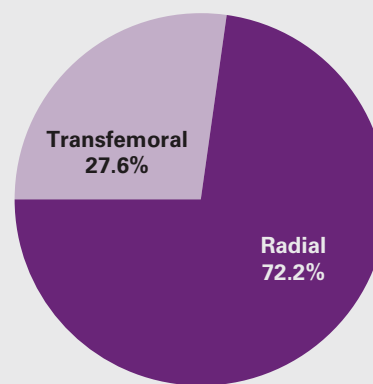
High Volume Center



Data Source: Internal Data

## Interventional Approach

Innovative Technique

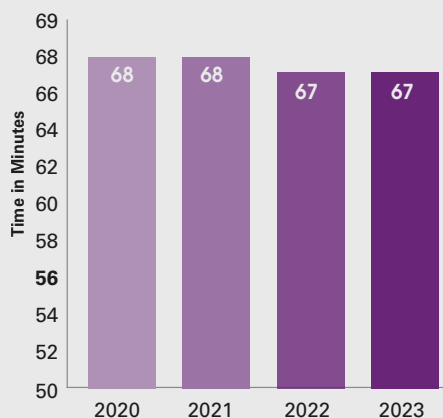


Using a radial approach offers patients a shorter recovery time and potentially less complications.

Data Source: Internal Data

## STEMI Door to Balloon Times

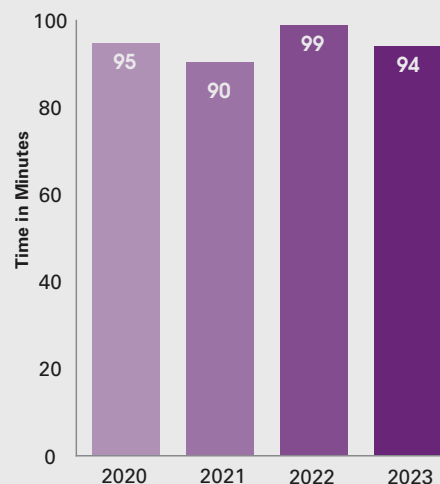
Door-to-balloon time is a key performance quality metric in the treatment of heart attacks. The American Heart Association's guidelines recommend that the artery be reopened within 90 minutes for best patient outcomes.



Data Source: Internal Data

## STEMI Door to Door to Balloon Times

As a STEMI Receiving Center, it is imperative that we provide 24 hour a day / 7 day a week PCI coverage. We closely track our door to door to balloon time, an important indicator of how quickly we are able to open an artery for patients transferred from another hospital. The AHA guidelines recommend that the artery be reopened within 120 minutes for best patient outcomes.



Data Source: Internal Data

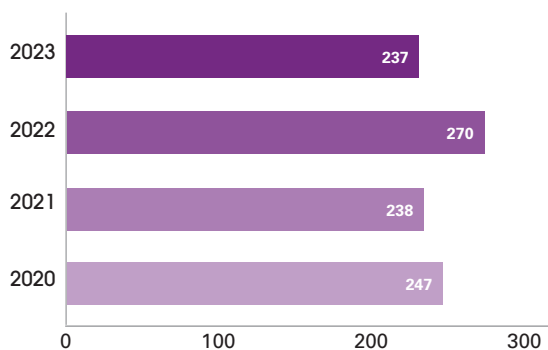
# Cardiovascular Surgical Services

## Our cardiac surgeons' extensive experience in cardiovascular procedures include:

- daVinci Robotic Procedures
- Coronary Artery Bypass with Arterial Grafts
- Ross Procedure (Pulmonary Autograft)
- TAVR (Transcatheter Aortic Valve Replacement)
- Maze Procedure
- Full service aortic valve program

## Isolated CABG Volumes

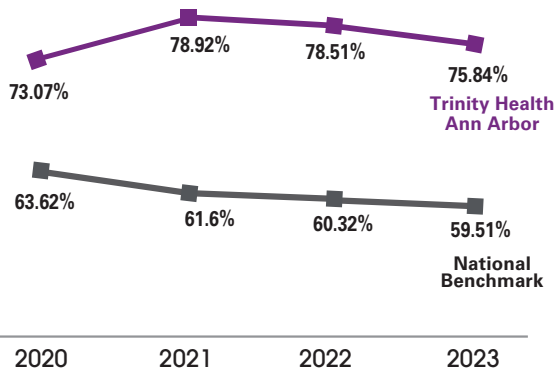
High Volume



Data Source: Internal Data

## Isolated CABG: Initial Post-Op Extubation Time of Less Than Six Hours

Year % Trinity Health Ann Arbor



Data Source: The Society of Thoracic Surgeons Adult Cardiac Surgery Database



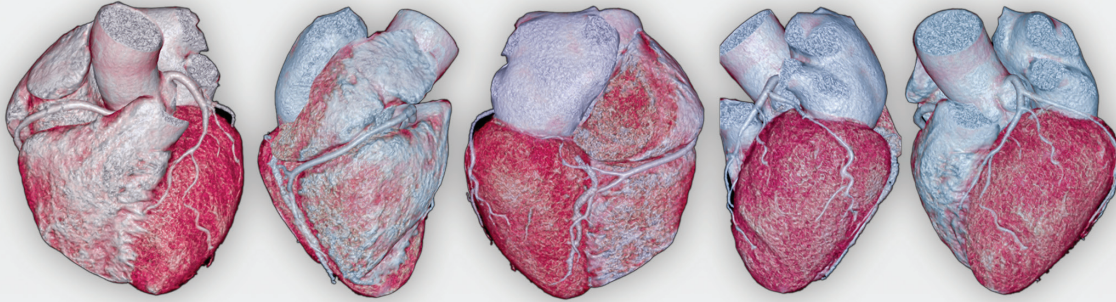
Ajay Gupta, MD, Cardiac Surgeon

## Leading Site for Robotic Surgery for Coronary Artery Disease

**A collaborative approach to Hybrid Revascularization:** We offer an off-pump graft to the LAD and perform percutaneous coronary intervention of coronary arteries in select patients who would be high risk for an open traditional bypass procedure.

This technique is possible due to the collaborative revascularization approach between cardiology and cardiothoracic surgery.

# Cardiovascular Imaging



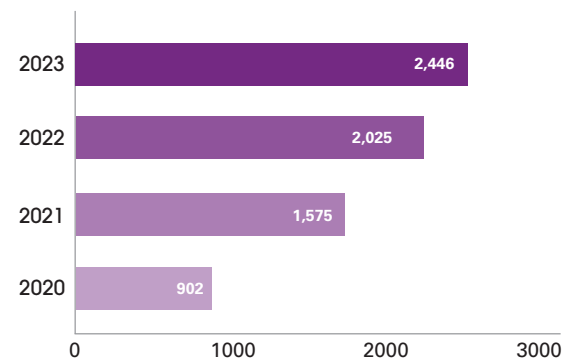
Trinity Health offers the full spectrum of imaging to assist in evaluating cardiovascular disease. Our imaging labs are accredited by the Intersocietal Accreditation Commission for Echocardiography, Nuclear and Vascular Testing. Our physicians are subspecialty board certified in imaging modalities to support a comprehensive cardiovascular program.

Our full range of services include:

- Electrocardiology
- Echocardiography, including 3D imaging
- Transesophageal Echocardiography, including 4D TEE imaging for structural heart
- Vascular Non-Invasive Studies
- Nuclear Stress Testing
- Echocardiographic Stress Testing
- Holter and Event Monitoring
- Cardiovascular 4D CT Imaging
- Cardiovascular MRI Imaging
- Coronary Artery Calcium Score

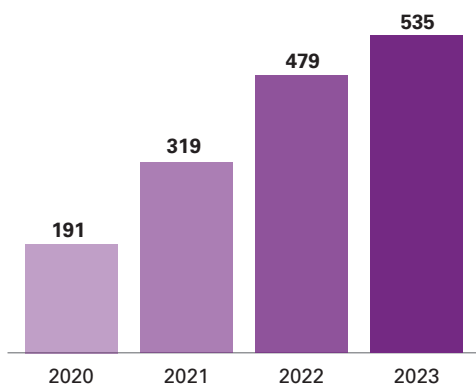
For referrals please contact: **734-712-8000**

## Cardiac CT Annual Volumes



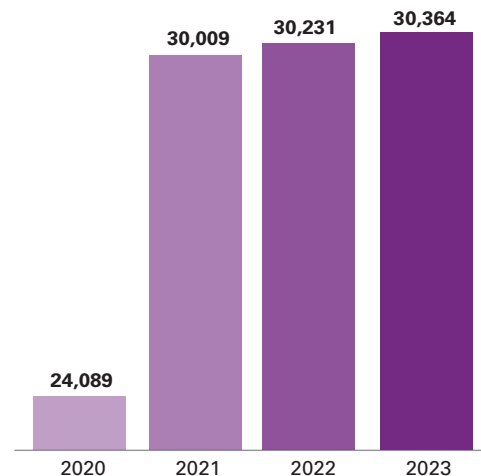
Data Source: Internal Data

## Cardiac MRI Annual Volumes



Data Source: Internal Data

## Echo Annual Volumes



Data Source: Internal Data



# Structural Heart & Valve Disease

The Structural Heart and Valve Disease Program at Trinity Health is a high volume referral program that relies on the comprehensive approach of our highly specialized team. TAVR candidates undergo an extensive workup under the guidance of a multi-disciplinary team comprised of cardiac imaging, interventional cardiology, cardiac surgery and dedicated nurse navigators. This collaborative approach is mirrored by our cardiac surgeons and electrophysiologists, as we continue to explore new and innovative opportunities to manage atrial fibrillation symptoms and reduce the risk of stroke. Our structural heart and valve teams are dedicated to providing high quality and state-of-the-art care for all patients.

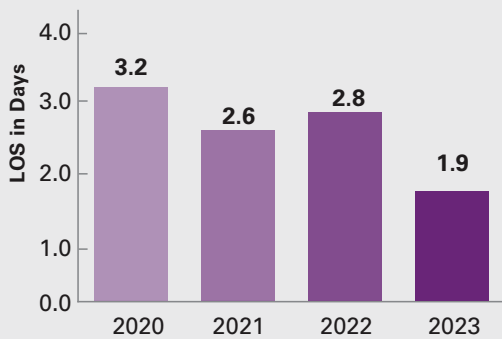
## Transcatheter Aortic Valve Replacement (TAVR):

Traditional treatment for severe aortic stenosis – a narrowing of the valve that delivers blood to the body – has been to open the chest, remove the faulty valve and replace it with a new one. For many years there was little that could be done to treat severe aortic stenosis if the patient was unable to undergo open heart surgery due to age and/or the severity of their condition. In August 2012, the heart team at Trinity Health Ann Arbor began performing a new procedure – the transcatheter aortic valve replacement – or TAVR. This less invasive treatment option allows for faster recovery and improved outcomes for a wide range of patients as an alternative to surgery.



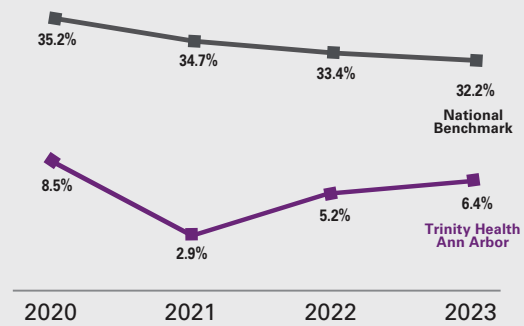


### TAVR Length of Stay



Data Source: STS/ACC TVT Registry™  
The Society of Thoracic Surgeons Adult Cardiac Surgery Database

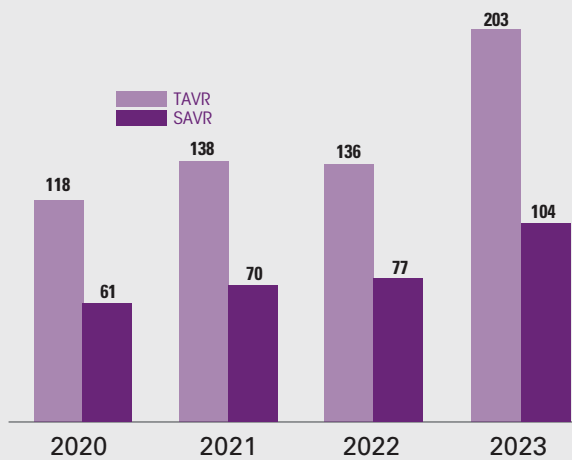
### TAVR General Anesthesia Utilization



Data Source: STS/ACC TVT Registry™  
The Society of Thoracic Surgeons Adult Cardiac Surgery Database

Utilization of conscious sedation versus general anesthesia in TAVR has been associated with shorter length of stay and lower in-hospital and 30-day mortality.

### TAVR & Surgical Aortic Valve Replacement (SAVR) Annual Volume



Data Source: Internal Data

# Structural Heart & Valve Disease continued

## Watchman:

The Watchman Device is an alternative treatment option for patients who suffer from atrial fibrillation not caused by heart valve problems and need an alternative to blood thinners. The Watchman Device is a permanent implant designed to close the left atrial appendage of the heart in an effort to reduce the risk of stroke. Watchman also eliminates the need for patients to take blood thinning medications which can be costly and activity limiting. For patients not eligible for Watchman we offer a minimally invasive surgical option.

### Patients eligible for the Watchman Device include those who:

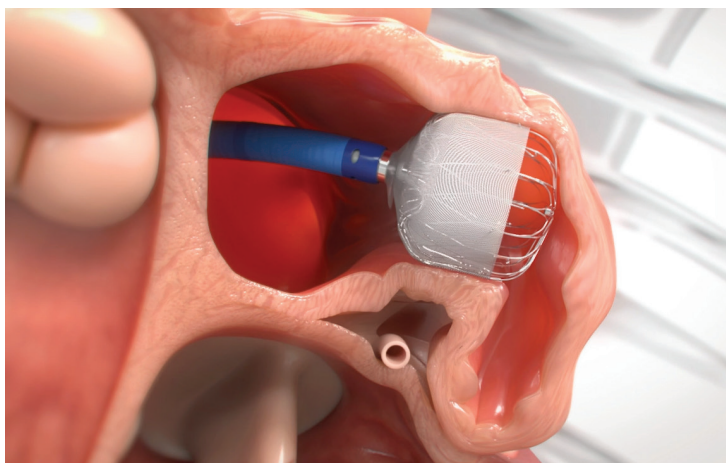
- Have non-valvular atrial fibrillation
- Have an increased risk of stroke and are recommended to take oral anticoagulation
- Need an alternative to oral anticoagulation because of a history of bleeding or a lifestyle that puts them at risk of bleeding



WATCHMAN FLX Device



WATCHMAN FLX Device  
and Access Sheath

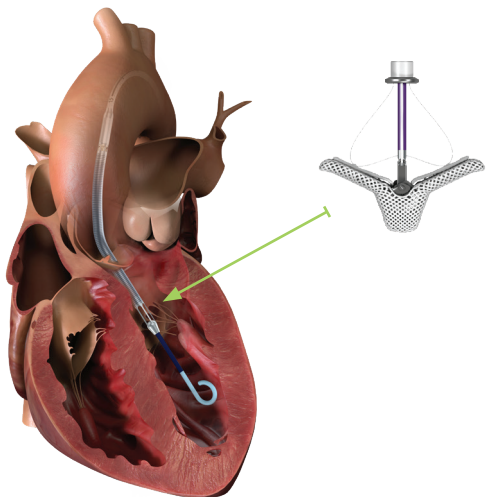


**For referrals or additional information,  
please contact our Structural Heart  
Nurse Navigators: 734-712-2524**

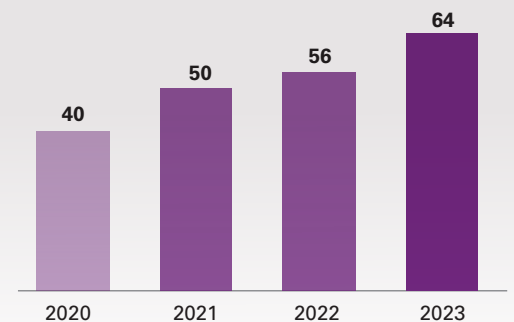


## Mitral Transcatheter Edge-to-Edge Repair (TEER) and Mitral Repair Surgery:

The Mitral Transcatheter Edge-to-Edge Repair (TEER) procedure is a minimally invasive procedure for patients with degenerative mitral regurgitation who are unable to undergo open heart surgery. Unlike surgery, the procedure does not require bypass or sternotomy; instead the physician accesses the mitral valve through a transfemoral catheter. A device is then attached to the mitral valve and allows the valve to close more completely, helping to restore normal flow.



## Mitral Valve Replacement & Repair Annual Volumes



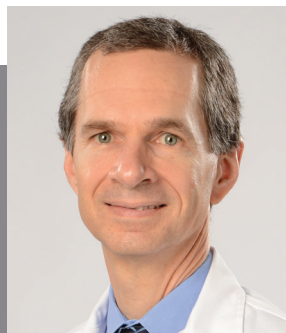
Data Source: Internal Data

### Patients eligible for TEER include those who:

- Have significant degenerative mitral regurgitation
- Complain of shortness of breath, tiredness, chest pain or dizziness
- Are at high risk for surgery due to factors that may include age, frailty or severe comorbidities

## Robotic Assisted Mitral Valve Surgery

- Endoscopic, closed chest approach
- When compared to traditional methods robotic surgery offers:
  - Smaller incisions with minimal scarring
  - Less trauma to patients
  - Shorter hospital stays
  - Decreased pain medication usage
  - Less bleeding
  - Decreased infection rate



Andrew Pruitt, MD  
Cardiac Surgeon



David Sutter, MD  
Cardiologist



Mansoor Qureshi, MD  
Cardiologist


# Heart Failure

The Trinity Health team is fully committed to ensure our heart failure patients receive comprehensive care and are prepared for the transition from hospital to home. Through a variety of strategies devised and implemented by our multidisciplinary heart failure group, we have been able to successfully reduce readmissions, improve 30-day mortality rates and increase our patient experience scores, without increasing our length of stay. Working closely with our physician organization colleagues has been critical in optimizing heart failure care and we are excited to continue this work with all of our referring providers.

**For referrals please contact:  
734-712-8000**

## **Our unique and focused approach to heart failure care:**

- Follow up appointments within seven days of discharge
- 90-day serial follow up calls to patients post hospital discharge
- Expanded palliative care services for high risk heart failure patients
- Auto-referral for Intensive Cardiac Rehab
- Improving and monitoring clinical care metrics and providing real time feedback to providers
- Cardiovascular Medicine Model: specialty-trained cardiac care hospitalists
- Cardiomems



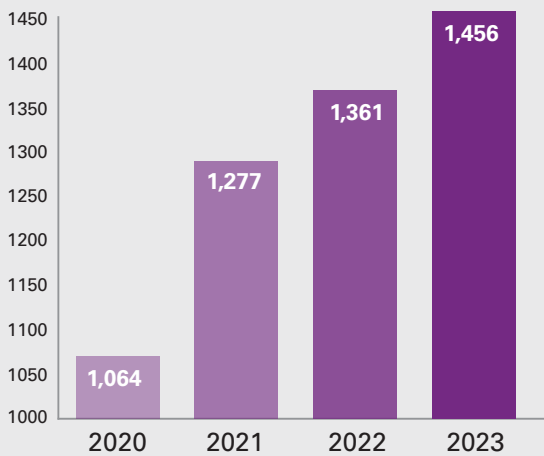
Marlo Leonen, MD, Cardiologist  
Ahmad Mized, MD, Cardiologist  
Bhavana Toprani, MSN, RN, Clinical Nurse Specialist



## State leader in follow up within 7 days of hospital discharge

We coordinate care closely with our outpatient colleagues to ensure that patients are seen within 7 days of leaving the hospital after a heart failure admission. This is a critical initiative to ensure patients are able to maximize their hospital free days.

### Heart Failure Volumes



Data Source: Internal Data

### Death Rate for Heart Failure Patients

Better than national rate

**10.2%**

National result

**11.8%**

Number of included patients: 823

### Rate of Readmission Heart Failure Patients

Better than national rate

**18.4%**

National result

**20.2%**

Number of included patients: 930

### Hospital Return Days for Heart Failure Patients

Average days per 100 discharges

**-12.3%**

National result

Not applicable

Number of included patients: 790

### Payment for Heart Failure Patients

Less than the national average payment

**\$17,305**

National average payment

**\$18,764**

Number of included patients: 793

Data source: Medicare Care Compare at [www.medicare.gov/carecompare](http://www.medicare.gov/carecompare)

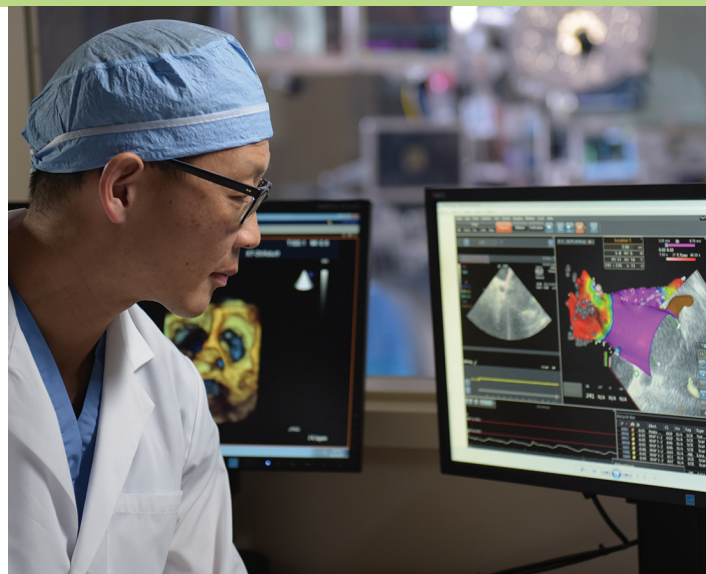
Our Heart Failure Clinic is a comprehensive program with the goal of combining inpatient, outpatient and home care services to optimize quality of life. The clinic team includes board certified cardiologists, nurse practitioners, registered dietitians and social workers to provide services such as education, counseling and medication monitoring and adjustment.

# Electrophysiology

Our electrophysiology (EP) physicians are highly specialized in treating and managing a wide spectrum of heart rhythm disorders.

Our EP program offers:

- Diagnosis and management of complex arrhythmias
- Interpretation and performance of EP studies
- Radiofrequency catheter ablations
- Implantation and evaluation of cardiac implantable electronic devices
- Pulmonary vein and atrial flutter ablations
- Watchman device implantation and management
- Collaboration with cardiac surgeons to offer maze procedure
- Convergent procedure



## Atrial Fibrillation

Our Atrial Fibrillation (AFib) Program is a comprehensive program for medical and interventional treatments, education and clinical research for patients diagnosed with AFib. Our program brings together specialists from cardiology, electrophysiology, cardiac imaging and cardiac surgery with expertise in diagnostic testing, medical management, interventional and surgical procedures.

**Key components of our program include:**

**Atrial Fibrillation Clinic:** For newly-diagnosed AFib patients, we have a streamlined and easy access referral program. Patients are seen by an Advanced Practice Provider with expertise in AFib and work with our electrophysiology team to develop an individualized care plan.

**Emergency Department Admission Reduction Program:** Through ensuring access into the Atrial Fibrillation Clinic within 24 -72 hours, we have reduced the number of unnecessary AFib admissions to the hospital, resulting in better care at a lower cost for our community.

**For referrals please contact: 734-712-8000**

## Convergent Procedure:

The Convergent procedure is a minimally invasive treatment for patients with difficult to treat atrial fibrillation (afib). It is a hybrid procedure where a cardiologist and cardiac surgeon each complete a portion of the procedure. Radiofrequency ablation (heat) is used to produce lesions (scar tissue) on the heart to block the abnormal electrical signals that cause afib.

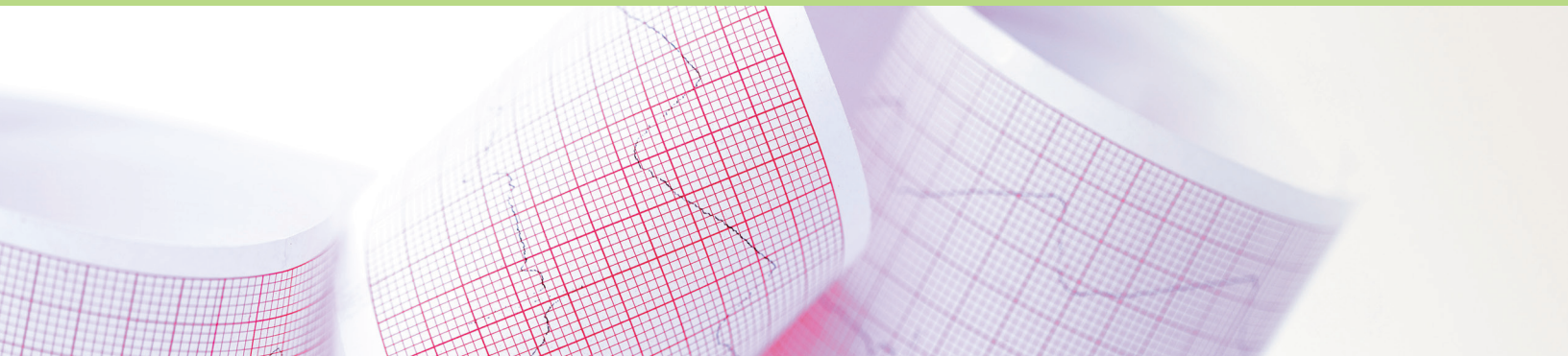
Patients eligible for the Convergent procedure include those who:

- Have difficult to treat atrial fibrillation
- Have previously had catheter ablations that have not held

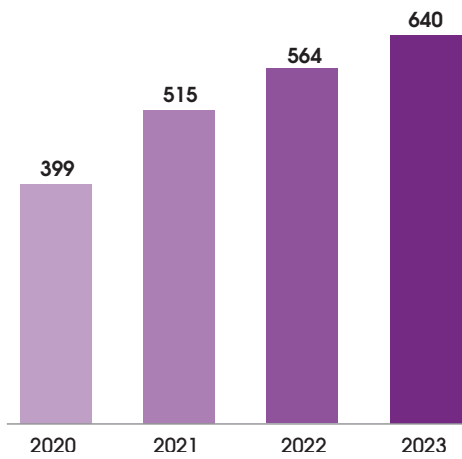
**For referrals or additional information, please contact our Structural Heart Nurse Navigators: 734-712-2524.**



*Robert Lyons, MD, Cardiac Surgeon*



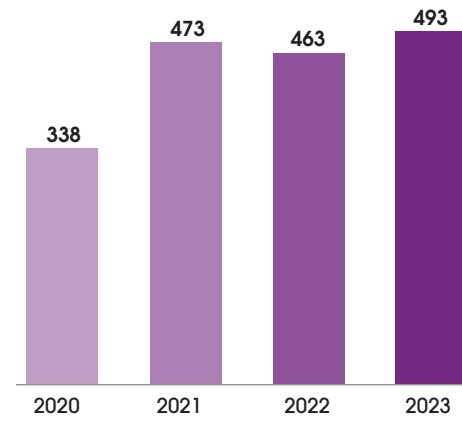
### Ablation Annual Volumes



Data Source: Internal Data

### Pacemaker Annual Volumes -

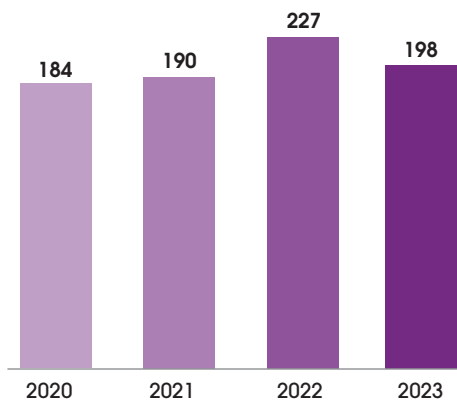
*\*\*Notes: Implants only*



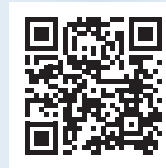
Data Source: Internal Data

### ICD Annual Volumes -

*\*\*Notes: Implants only*



Data Source: Internal Data



#### Atrial Fibrillation

Scan QR code to watch a video about Atrial Fibrillation



# Vascular Disease

Our Vascular & Endovascular program focuses on the diagnosis of vascular disease and offer the full complement of treatment options – including endovascular intervention and surgical treatment. Our team offers expertise including medical, minimally invasive and surgical approaches to arterial and venous disorders.

We offer a comprehensive array of vascular treatment and surgical services, including:

- Arterial aneurysms, including the thoracic and abdominal aorta, and peripheral vessels
- Carotid artery disease for prevention of stroke
- Peripheral artery occlusive disease (PAD) causing claudication or limb-threatening ischemia
- Renovascular hypertension
- Hemodialysis access for patients with kidney failure and salvage techniques for dialysis steal syndrome
- Minimally invasive bypass and cosmetic procedures
- Thoracic Outlet Syndrome (TOS): nonoperative and interventional treatment options
- Venous disorders, including varicose veins, iliac vein compression and May-Thurner syndrome, symptomatic saphenous vein and perforator disease and sclerotherapy
- Office-based interventional suite
- Participates for vascular rehabilitation for claudication

**For referrals please contact: 734-712-8272**



## Abdominal Aortic Aneurysm Spotlight

Abdominal aortic aneurysms are a source of life-threatening injury and potential death in the adult and elderly population. Overtime, a weakness in the wall of a major artery providing blood flow particularly to the chest, abdomen and legs can continue to enlarge (like a balloon) until they rupture. Identification and treatment of larger aneurysms is important to prevent these ruptures and the potential for fatal outcomes.

At Trinity Health Ann Arbor, we have multiple options for patients that undergo aneurysm repair. Through minimally invasive means including small punctures over the groins, to traditional open surgery in the abdomen, we offer comprehensive services and excellent quality outcomes. We carefully customize aneurysm treatment to each individual patient.

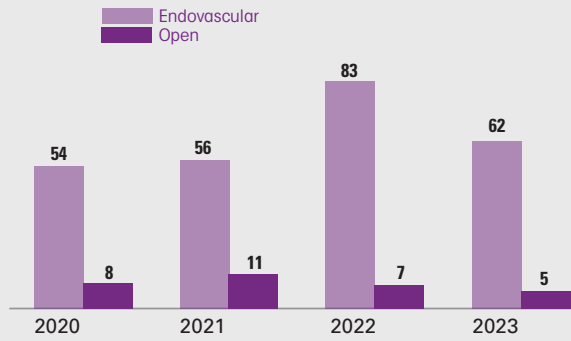
Our experienced surgeons are comfortable with a wide range of aneurysm treatments and frequently collaborate with our heart surgeons. We work together to perform combined operations to minimize the number of incisions and maximize the health benefits for our patients.

We are a regional leader not only in volume, but also in practice, being the first major hospital in southeast Michigan to initiate a ruptured aneurysm protocol in our Emergency Department. We provide excellent service to rapidly mobilize resources to achieve the best outcomes even in these critical situations.



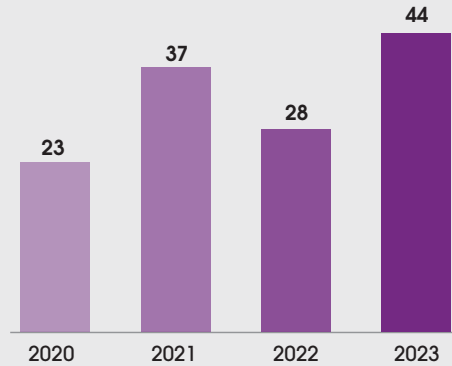
# Vascular Disease continued

## AAA Endovascular Repair and Open Repair Annual Volumes



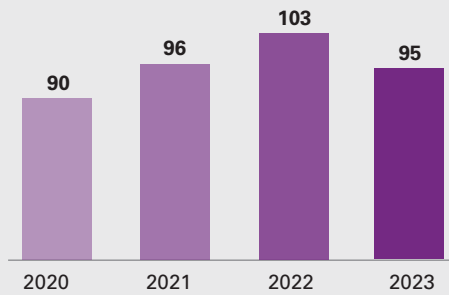
Data Source: Internal Data

## Carotid Stenting Annual Volumes



Data Source: Internal Data

## Carotid Endarterectomy Annual Volumes



Data Source: Internal Data

**One of the largest minimally invasive lower extremity  
bypass programs in the Midwest**



# Interventional Radiology



The Interventional Radiology (IR) Endovascular team offers a wide range of arterial, venous and even lymphatic interventions. We offer an inpatient IR Consultation Service as well as the outpatient Huron Valley Interventional Radiology Clinic.

#### Arterial Interventions:

- Persistent AAA Endoleak Embolization in concert with our vascular surgery colleagues
- Uterine Fibroid Arterial Embolization (UFE)
- Trauma Interventions
- Oncologic Chemoembolization/Ablation

#### Venous and Lymphatic Interventions:

- IVC Filter Placements and Retrievals
- Percutaneous Acute Iliofemoral DVT Thrombolysis/Thrombectomy with and without stent placements
- Varicocele and Pelvic Congestion Syndrome Treatments
- Thoracic Duct Embolization for Thoracic Duct/Chyle Leak

**For referrals please contact:**

**734-712-8350**

**Or place an Ambulatory Referral to Interventional Radiology in EPIC**

## Venous thrombo-Embolic Response Team (VERT) Spotlight

Our most recent endeavor is the Trinity Health multidisciplinary Venous thrombo-Embolic Response Team (VERT) leveraging our considerable and nationally recognized expertise in PE care via the PERT Program, with our long and robust experience in caring for patients with extensive iliofemoral DVT to form a Venous Thromboembolic (VTE) Center of Excellence. This disease can lead to considerable long-term morbidity and we are addressing these needs in consort with our Vascular Surgery colleagues.

## Multidisciplinary Care For Life Saving Treatments

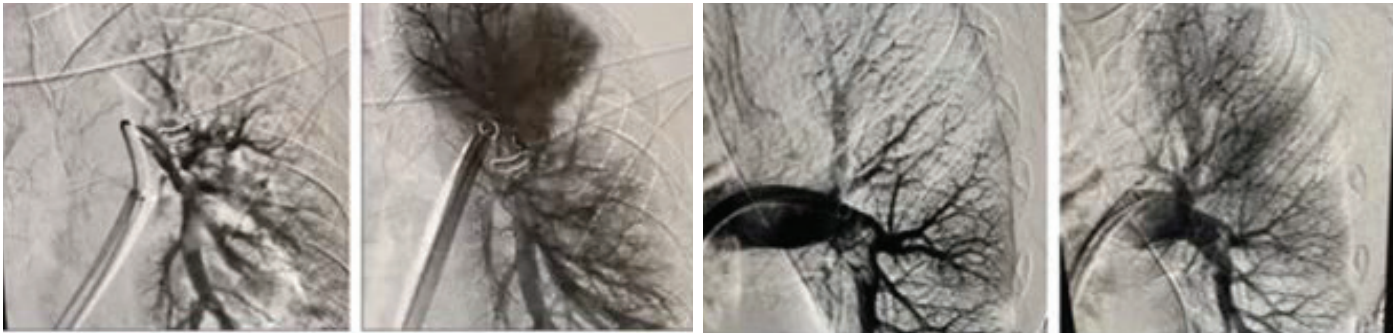
### Acute Proximal Lower Extremity DVT

Announcing a new multidisciplinary team consisting of Interventional Radiology, Vascular Surgery, and Hematology to treat and triage patients with Acute Proximal Lower Extremity DVT. If your patient is diagnosed with an acute DVT involving the common femoral vein or iliac veins, they may benefit from thrombectomy to relieve acute symptoms and avoid severe post thrombotic syndrome. Please call our service or place a consult into Epic and our team will help navigate these patients and ensure they receive the most cutting edge efficient safe care.

### Length of Stay

Minimal hospital resource footprint following FlowTrieve intervention

- Median ICU Stay post-procedure of 0 days
- Median hospital LOS of three days
- 30-day readmission rate of 6.7%



### P.E.R.T. Pulmonary Embolism Response Team

Since 2018, Trinity Health has had a formal PE response team lead by Interventional Radiology, leveraging expertise from across the hospital. Local experts discuss individual patients to formulate the best treatment options based on the latest cutting-edge research. When indicated, IR physicians will perform minimally invasive cost-effective intervention on acute pulmonary embolism, often resulting in life saving outcomes, lower morbidity and mortality in the short and long term, and shorter length of stay with less resource utilization.

We in IR are long-time members of the National PERT Consortium and have been leading the way in cutting-edge VTE research such as:

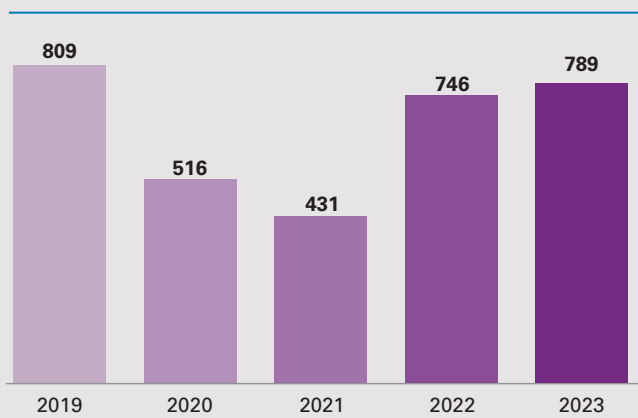
1. **FLASH Trial:** an international study of mechanical thrombectomy for acute severe PE, with the interim results published in the March 2022 Cardiovascular and Catheter Interventions journal and final results in the Eurointerventions journal, February 2023.
2. **BOLT Trial:** an ongoing national study of aspiration thrombectomy of acute iliofemoral DVT for which we are currently enrolling patients
3. **PE-TRACT Trial:** a first-of-its-kind ongoing NIH-sponsored national randomized controlled trial studying Catheter-Directed Therapies (CDT) for PE versus standard anticoagulation alone for which we are currently enrolling patients

# Intensive Cardiac & Vascular Rehab

At Trinity Health, cardiac and vascular rehabilitation has been an integral part of patient care for over 35 years. Studies have shown that cardiac rehab is at least as effective, and in some cases more effective, than leading medications that are commonly used after these conditions, such as aspirin, beta-blockers and statin drugs.

Trinity Health offers the Pritikin Intensive Cardiac Rehab (ICR) program which builds on conventional Cardiac Rehab by increasing sessions from 36 to 72, for a total participation time of around 12 weeks. ICR provides patients a more holistic approach to recovery, through stress management, exercise and healthy eating.

## Intensive Cardiac Rehab Annual Volumes



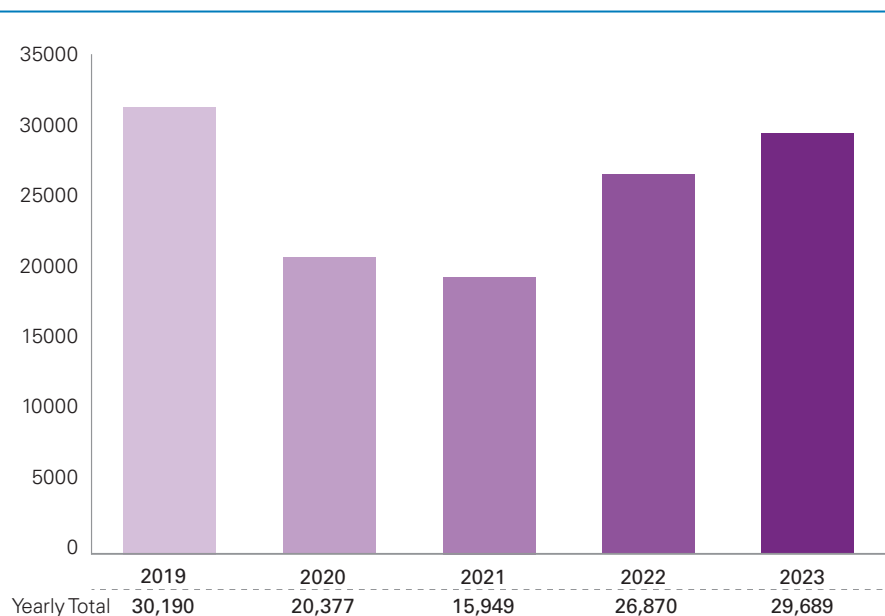
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## ICR Referral Process

- **Auto Referral:** Our ICR Navigators are automatically notified of any inpatients with a qualifying diagnosis. Navigators contact the patient, arrange for coverage verification, and set up a 1:1 personalized orientation, ideally all prior to discharge.
- **Physician/Self-Referral:** Patients may also be self-referred or referred by their physicians if they feel they would benefit from the program and have a qualifying diagnosis.

For referrals please contact: Ann Arbor 734-712-8643 • Livingston 517-545-6385

## Ann Arbor & Livingston Phase II Sessions



“Down 15 lbs. and reduces BP meds!” - *George*

“Be patient, be creative. Give this type of eating a chance.” - *Sally*

“2 months: 150 lbs. to 135 lbs. Completely plant based diet resulted in lower LDL, TG and most importantly high ENERGY levels!” - *Thiru*

“Inflammation is gone in my fingers! Food tastes delightfully different.” - *Steve*

“Cholesterol 232 to 107, 1 cholesterol med gone!!!! BP meds cut in half! Thank you everyone for providing tools and teaching how to use them.” - *Larry*

### Qualifying Diagnoses

- Myocardial Infarction
- Cardiac Intervention (PCI/Stent)
- Chronic Stable Angina
- CABG
- Valve Surgery
- Transplant
- Heart Failure
- Peripheral Vascular Disease
- Occlusive Disease

### Program Highlights

- 72 sessions vs. 36
- Cooking Classes
- Yoga and Mindfulness Sessions
- Tailored Video Education
- Nutrition Counseling
- Free education for one partner

### Benefits of ICR Program

- Improved survival
- Reduced heart attack risk
- Improvement in congestive heart failure symptoms
- Lower risk of cardiac rhythm disturbances, such as atrial fibrillation
- Reduced depression
- Better exercise capacity and less fatigue
- Improved control of or elimination of diabetes
- Improved blood pressure control
- Improved vascular disease with less claudication
- Reduced stroke risk
- Reduced need for, or elimination of many medications for diabetes, hypertension, angina, heart failure and cholesterol control
- Improved bone health





# Research & Innovation

Trinity Health is regarded as one of the premier clinical research sites in the country. Research allows us to learn more about medical conditions and offer patients breakthrough treatments and procedures that can better control their diseases.

Trinity Health conducts a rigorous evaluation process of all clinical research through their Executive Research Committee, and Trinity Health Institutional Review Board (IRB) must approve the clinical trial before it can be offered to patients.

Currently, at Trinity Health there are more than **50 trials** underway involving over **1,200 patients** in areas such as interventional cardiology, heart failure, carotid artery stenting, valve surgery, peripheral vascular disease, electrophysiology and non-invasive cardiology.

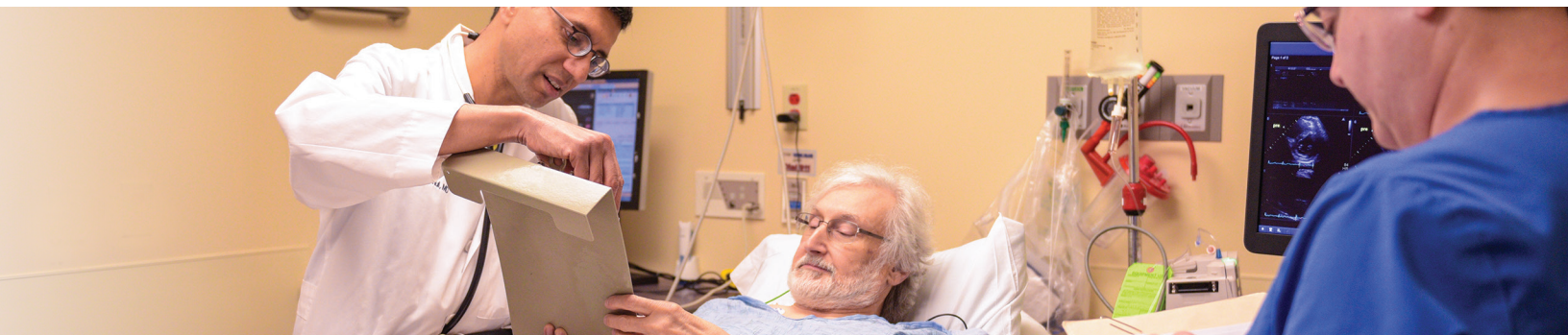
*“I do not think that the importance of scientific and ethical research can be overstated. Only through the process of research and development can we continue to advance our field in hopes of improving the health and quality of our patients we serve.”*

- Ahmed Mizyed, Clinical Director of Research

## Highlighted trials underway at Trinity Health include:

- **PROACT** – A multi-center Prospective Randomized On-X valve Anticoagulation Clinical Trial to determine whether it is safe and effective to manage On-X valve patients with less aggressive anticoagulant therapy. Patients are followed for eight years and will be maintained safely on lower doses of Coumadin or an antiplatelet drug only rather than the standard dose of Coumadin and aspirin presently recommended by ACC/AHA guidelines.
- **ANTHEM HFrEF** – An investigational device used to stimulate the vagus nerve in patients with symptomatic heart failure and reduced left ventricular function. The device is implanted on the right vagus nerve in the operating room. Patients are followed for five years to evaluate the safety and effectiveness of autonomic regulation therapy in heart failure.
- **SELECT** – Drug study for patients with history of stroke, heart attack or poor circulation and are overweight or obese with no history of diabetes. Evaluating if taking semaglutide may reduce the risk of reoccurrence of heart attack, stroke or death. Patients are evaluated 25 times over five years.
- **CardiAMP** – An investigational device used in patients with heart failure who have had a heart attack. The patient’s own stem cells are injected into the heart muscle. Patients are followed for one year evaluating for improving heart failure symptoms.
- **BEST** – Evaluation of one of two therapies for patients with decreased blood flow to leg and foot. Patients will receive either surgical intervention or endovascular treatment (angioplasty) to open the blocked arteries in the leg. Patients are followed for seven years to determine which of the two therapies are better in restoring blood flow and information on cost effectiveness.

**If you are interested in learning more about current research studies, please contact our Research department at 734-712-7787.**



# Community Engagement



At Trinity Health, we are passionate about providing education and promoting a heart-healthy lifestyle to all ages. Our community-based programs for patients and family members promote a lifelong approach to wellness and cardiovascular health. They include risk-factor management, stress reduction, support groups, nutrition and exercise classes.

## Our programs include:

- **Student Education Programs** in partnership with The Farm at Trinity Health, we offer new and innovative ways to improve health and wellness for our colleagues and the community through improving access to fresh food, nutrition education and therapy.
- **Healthy Hearts & Lungs 101** is a unique field trip experience for fifth and sixth grade students focused on heart-healthy lifestyle. Students learn about heart anatomy, diseases of the heart and lungs and the dangerous effects of smoking.



# Meet Our Providers

## Noninvasive Cardiology



Steven E. Girard, MD  
*Structural Heart*



Tauqir Y. Goraya, MD  
*Structural Heart*



Kate (Groh) Holtze, MD  
*Structural Heart*



Bradley L. Hubbard, MD



Sara Karnib, MD  
*Structural Heart*



Marlo F. Leonen, MD  
*Heart Failure*



Benjamin D.  
McCallister Jr., MD



Roy Misirliyan, MD



Ahmad Mized, MD  
*Heart Failure,  
Structural Heart*



Paul Nona, MD



Daniel Perry, MD



Shilpa Reddy, MD



Ashraf Saleh, MD



Robert L. Steele, MD



James E. Wilks, MD

## Electrophysiology



Mohammad  
Ali-Jazayeri, MD



Xu Gao, MD



Radmira S.  
Greenstein, MD



Jihn D. Han, MD



Andrew Hughey, MD

## Interventional Cardiology



Laurie Bossory, MD



Jodie Kenes, MD



Mansoor A. Qureshi, MD  
*Peripheral Vascular,  
Structural Heart*



Suraj Raheja, MD



Cyril Ruwende, MD  
*Peripheral Vascular*



Zakir H. Sahul, MD  
*Structural Heart*

## Cardiothoracic Surgery



Ajay Gupta, MD  
*Structural Heart*



Robert Lyons, MD  
*Structural Heart*



Andrew Pruitt, MD  
*Structural Heart*



Manak Sood, MD



David A. Sutter, MD  
*Structural Heart*



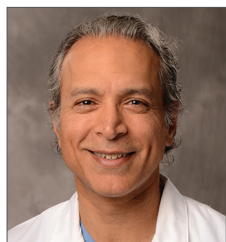
Tanmay  
Swadia, MD



Javier Valle, MD  
*Peripheral Vascular,  
Structural Heart*

# Meet Our Providers continued

## Interventional Radiology



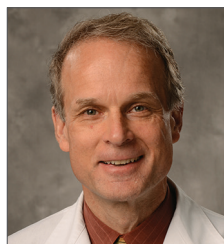
Vishal Bhagat, MD



Kevin Hannawa, MD



Joshua Rubin, MD



Michael Sarosi, MD



Hriday Shah, MD



Owen Stark, MD

## Vascular Surgery



Melissa Day, MD



Michael Heidenreich, MD



Chinmaya Shelgikar, MD



Hue Thai, MD

## APPs



Galen Engel, CNP



Thomas J. Forton, CNP



Jennifer Kemps, PA-C



Thais Hall, CNP



Andrea Hudak, CNP



Amy List, CNP



Anahit Movsesyan, PA-C



Nidhi Patel, CNP



Kathleen Ritzert, CNP



Monica Scarffe, CNP



Daniel Shonnard, PA



Mary Zhen, PA-C

## Michigan Heart

- **Ann Arbor/Ypsilanti**  
5325 Elliott Drive,  
Second floor  
Ypsilanti, MI 48197  
**734-712-8000**
- **Brighton**  
7575 Grand River, Suite 206  
Brighton, MI 48114  
**810-844-7750**
- **Canton**  
1600 S. Canton Center Road  
Suite 345  
Canton, MI 48188  
**734-398-7515**
- **Chelsea**  
14650 E. Old US-12,  
Suite 204  
Chelsea, MI 48118  
**734-712-8000**
- **Livonia**  
14555 Levan Road, Suite 203  
Livonia, MI 48154  
**734-462-3233**

## IHA Cardiovascular & Thoracic Surgery

5325 Elliott Drive, Suite 102  
Ypsilanti, MI, 48197  
**734-712-5500**

## IHA Vascular & Endovascular Specialists

5325 Elliott Drive, Suite 101  
Ypsilanti, MI, 48197  
**734-712-8272**

## Center for Wound Care & Hyperbaric Medicine

- **Ann Arbor/Ypsilanti**  
5333 McAuley Drive  
Suite 1100  
Ypsilanti, MI 48197  
**734-712-9637**

- **Brighton**  
7575 Grand River Road  
Brighton, MI 48114  
**734-712-9637**

## Huron Valley Radiology

- **Ann Arbor/Ypsilanti**  
5301 East Huron River Drive  
Ypsilanti, MI 48197  
**734-712-8350**

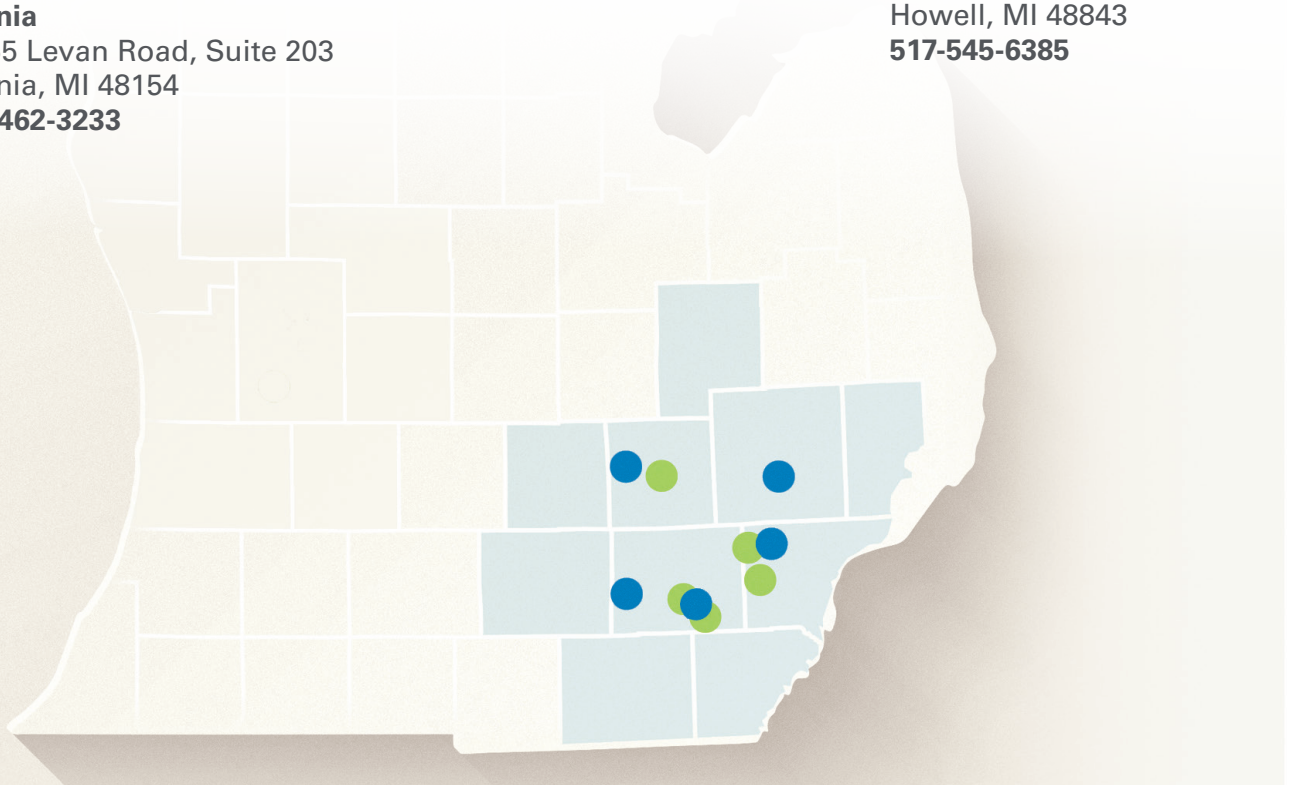
- **Brighton**  
7575 Grand River, Suite 103  
Brighton, MI 48114  
**810-844-7050**

- **Livingston**  
620 Byron Road  
Howell, MI 48843  
**734-712-8350**

## Intensive Cardiac Rehabilitation

- **Ann Arbor/Ypsilanti**  
5325 Elliott Drive, Suite 105  
Ypsilanti, MI 48197  
**734-712-8643**

- **Brighton**  
620 Byron Road, First Floor  
Howell, MI 48843  
**517-545-6385**



● HOSPITALS    ● HEALTH CENTERS    ● COUNTIES SERVED



[TrinityHealthMichigan.org/cardiovascular](https://TrinityHealthMichigan.org/cardiovascular)