

TAVR Program Expands Regionally

While Coronary Artery Disease (CAD) treatments have improved the average lifespan by 10 years, it brought about another medical challenge. As people age, valvular heart disease and atrial fibrillation emerged as two new heart conditions to address. "Just like with CAD, we realized that forward thinking and planning to see what our community would need in the future was necessary," shared William W. O'Neill, M.D., medical director of the Henry Ford Center for Structural Heart Disease.

In 2005, Dr. O'Neill did the first TAVR procedure in the United States. As an early adaptor, with FDA approval for high risk patients finally in place, Henry Ford Hospital became one of the first TAVR programs in Michigan in 2012. At that time there were four TAVR programs, now there are close to 20. Since that time, techniques have improved to 'fix' the aortic valve without open heart surgery.



William W. O'Neill, M.D., MSCAI

"In our early use of TAVR, the FDA had only approved this procedure for very ill, older patients who were very high risk for open heart surgery. We were involved in a study called PARTNER (Placement of AoRTic traNscathetER valves), a research study looking at new avenues for looking at fixing the aortic valve and decreasing the risks," explained Dr. O'Neill. PARTNER 1 and 2 studied high risk patients and PARTNER 3 studied TAVR in lower risk patients. "The study was very successful, showing it is actually less risky for patients who are lower risk to receive TAVR valve replacement than open heart surgery.

Alive Today Because Of A Family's Donation



Michelle Rachuk

Michelle Rachuk, 49, of Waterford was visiting her parents in Chesterfield Township March 9 when a series of medical events starting with flu symptoms eventually led to her heart stopping.

Her death-defying odyssey began with a positive flu and pneumonia test at an urgent care near her parents' home. Her blood glucose numbers were also very high, so Michelle, who is diabetic, was told to go to emergency department, she chose Henry Ford Macomb Hospital.

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EXPANSION OF SERVICES

TAVR Program Expands Regionally

As a result of the study, the FDA approved TAVR for low risk patients in September," he shared. "So, very similar to the days of angioplasty programs being three in 1983, there are now 37 programs, we needed to do the same type of expansion with TAVR," said Dr. O'Neill.



The first Central Market Henry Ford Allegiance TAVR patient was an active 86-year-old Jackson man diagnosed with aortic stenosis, the TAVR procedure replaced the aortic valve.

FDA Approval Creates Need For TAVR Expansion

With FDA approval of TAVR for lower risk patients eminent, "We recognized the need to be prepared to serve our communities due to a large increase in eligible TAVR patients," says Dr. O'Neill. TAVR is now safer than in 2012, the valve devices are now lower in profile, smaller sheaths mean lower surgical vascular compilation rates and the valve devices are much more predictable to insert without leaks or other issues with them. With these improvements, lower volume hospitals are now able to do TAVR and achieve positive outcomes.

It is anticipated that TAVR cases in the region will top 500 over the next two years, from the 2018 level of 312 cases at Henry Ford Hospital. It was obvious TAVR needed to be expanded within the region. TAVR teams in each region were created and supported by operators with more experience.

As with any new program, CMS requirements had to be met. Each hospital was required to have an openheart surgery program and perform a specific number of aortic valve replacement procedures for Medicare to cover cost of the procedures.

"We made this a very successful collaborative effort among Henry Ford Medical Group physicians and community cardiologists practicing at Henry Ford Allegiance Hospital and Henry Ford Macomb Hospital. The staff at the hospitals worked diligently to meet

Henry Ford Allegiance Hospital

Tiberio Frisoli, M.D., Lead Operator

Matthew Jonovich, M.D., Interventional Cardiologist

Usman Khokhar, M.D., Interventional Cardiologist

Mahender Macha, M.D., Cardiac Surgeon

Vincent Simonetti, M.D., Cardiac Surgeon

Henry Ford Macomb Hospital

William W. O'Neill, M.D., Lead Operator

Samer Kazziha, M.D., Interventional Cardiologist, Chief of Cardiovascular Services

Subhi Sabahi, M.D., Interventional Cardiologist

Natesh Lingham, M.D., Interventional Cardiologist

Raed Alnajjar, M.D., Cardiothoracic Surgeon

Luay Sayed, M.D., Interventional Cardiologist



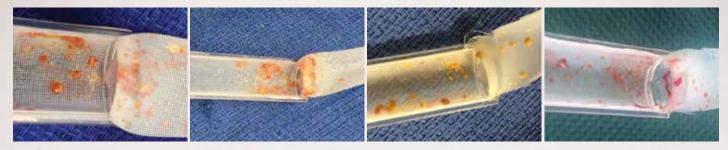
The first two patients who underwent TAVR procedures on August 7, 2019 by the Henry Ford Macomb Hospital TAVR team, are both women diagnosed with aortic stenosis.

the thresholds required by CMS and on June 26, the first TAVR case was performed at Henry Ford Allegiance Hospital and on August 7 at Henry Ford Macomb Hospital. Each case was flawless," explained Dr. O'Neill. "We have a far better mortality rate then the rest of state for TAVR and we want to maintain that rate. I'm very happy with outcomes so far, this is a very high-quality program."

To refer a patient in your region, call: Henry Ford Macomb Structural Heart Disease Program: 586-263-2221; Henry Ford Allegiance Cardiology: 517-205-1234; Henry Ford Hospital, Center for Structural Heart Disease: 855-518-5100.

RESEARCH

TCAR: Shown to Prevent Stroke



The ENROUTE® Transcarotid Neuroprotection System temporarily reverses blood flow away from the brain, collecting any potential debris in the device filter, before returning the blood to a vessel in the leg (images show actual debris captured in filters).

Carotid endarterectomy (CEA) is considered the gold standard to treat patients with asymptomatic and symptomatic carotid artery stenosis. Results from the CREST¹ study indicated that the surgical risk of stoke is 2.3 percent at 30 days with a short hospital stay using the CEA approach, and a 4.4 percent stroke rate using a transfemoral stenting approach. Carotid endarterectomy does require anesthesia and an incision in the neck, and as such, may have a higher risk of myocardial infarction (MI), making it a less optimal method of treatment for high-risk patients including those with severe underlying heart disease.

However, there is now a new procedure which combines the benefits of both CEA and transfemoral stenting, with a very low risk of stroke while being a much less invasive procedure. This new procedure is called trans-carotid artery revascularization, or TCAR. Henry Ford Hospital was one of the first centers TCAR was performed in the state of Michigan.



Timothy J. Nypaver, M.D.

Like CEA, TCAR involves direct access to the carotid artery, but through a small 2 cm incision just above the clavicle instead of a longer incision along the entire neck. This can be performed under general or local anesthesia. Through the incision a vessel loop is used to control the carotid artery and a suture is placed for easy closure of the incision at the end of the case. A small, specialized sheath is then placed in the common carotid artery. "We then begin to temporarily reverse the blood flow which moves debris away from the brain, protecting it from emboli that may be dislodged during the procedure. The reversed blood flow is redirected to the femoral vein where the lower blood pressure in the leg vein creates a pressure gradient," explains Timothy J. Nypaver, M.D., chief of Vascular Surgery and the D. Emerick and Eve Szilagyi Chair in Vascular Surgery. "The debris that potentially causes a stroke is captured outside the body in a filter, directing any debris away and out from the patient while the angioplasty and the stent are inserted (see images above). The system and set-up is known as the ENROUTE Trans-carotid Neuroprotection System.

"The ENROUTE system deploys a trans-carotid stent implanted in the lesion for long-term plaque stabilization and stroke prevention," explains Jordan Knepper, M.D., MSc, vascular surgeon at Henry Ford Allegiance and medical director, Cardiovascular Services. "The FDA has approved this procedure for high-risk patients, like those with



Jordan Knepper, M.D., MSc

heart failure, COPD or anatomically distorted vessels. Most of our patients have been symptomatic with comorbidity, so the only other option is to let the stroke happen. We have completed 10 at this point; one of our earliest patients was 97-years-old. She was not a candidate for CEA, and would likely not have survived without use of TCAR."

Alive Today Because Of A Family's Donation



Dr. Raed Alnajjar, Dr. Majid Al-Zagoum and patient Michelle Rachuk met Vik Bedi and Aditi Bagchi (wife of Ajay Bedi). A photo of Raj Bedi is displayed at right. The ECMO machine was donated in his honor.

Michelle had no idea that this decision would mean the difference between life or death or that her life would be saved by a newly donated ECMO (Extracorporeal membrane oxygenation) device.

When Michelle walked into the emergency department she thought it was just the flu. Majid Al-Zagoum, M.D., interventional cardiologist, quickly diagnosed acute heart failure. "Her ejection fraction was 10%, and there was evidence of a blockage from elevated cardiac markers," said Dr. Al-Zagoum. "We quickly recognized that it was a heart attack which started the symptoms Michelle experienced."

When she was stable enough for a cardiac catheterization, Dr. Al-Zagoum, placed a stent. "One occluded artery was completely blocked and the other had a 99% blockage. We were able to get the blood flow re-established, but her heart stopped."

Dr. Al-Zagoum performed CPR for almost an hour, desperately trying to revive her—her body went into cardiogenic shock. Following the cardiogenic shock protocol, Dr. Al-Zagoum inserted an Impella® heart pump, which should have given her heart a chance to rest and recover, but her heart did not respond enough and CPR was needed to maintain descent rhythm and pressure.

Unwilling to give up on Michelle, cardiothoracic surgeon Raed Alnajjar, M.D., was called in. "At first, I thought there was nothing more we could do, everything had been done. Chest compressions were now 30 minutes over the norm. Then I asked 'how old is she?'" For Dr. Alnajjar, 49 years-old meant keep trying.

Dr. Alnajjar had been trained to use ECMO, and although not available in most hospitals, Henry Ford Hospital Macomb had just received a portable ECMO through a donation.

He quickly pulled it off the shelf and in five minutes placed Michelle on EMCO. This vital piece of portable technology took over and became Rachuk's heart and lungs providing time for her organs to rest and heal.

Michelle's life depended on the ECMO device. "Putting somebody on the machine is easy, it's no big deal. But taking care of those patients after is the challenge," explained Dr. Alnajjar. After her transfer to Henry Ford Hospital to be cared for by experts in ECMO support, she regained consciousness later that evening. Dr. Alnajjar was shocked to see her responsive so soon and called Dr. Al-Zagoum to share the good news.

"I'm so grateful that the Bedi family made this generous donation. I hope it saves many more lives."

After slowly weaning her off the ECMO machine over the course of a week, Michelle was transferred back to Henry Ford Macomb Hospital for inpatient rehabilitation, and one month later she went to stay with her parents.

Michelle Meets The ECMO Donors

Michelle met the Bedi family of Northville, who donated the portable ECMO machine in memory of their late father, Raj Bedi. Vikram Bedi and Ajay Bedi felt moved to carry on their father Raj's legacy by donating the ECMO machine to help patients at Henry Ford Macomb Hospital.

Vikram Bedi shared, "Our father always taught us the importance of giving back to our community. Henry Ford Macomb Hospital means a lot to our family, because of my father's coronary artery bypass using the da Vinci robot there years earlier."

Michelle says, "I'm so grateful that the Bedi family made this generous donation. I hope it saves many more lives." Dr. Alnajjar explains, "It is certain that without this device, she would not have survived."

Henry Ford Health System is a referral center for advanced therapies, including ECMO. Adept at using ECMO since 2012 as temporary mechanical support at Henry Ford Hospital, system doctors treated 73 patients in 2018 and expect to help more than 100 patients this year.

To transfer a patient to the Henry Ford Hospital ECMO program, call The Critical Care Transport Team at 1-866-HFH-BEDS (1-866-434-2337). Or to make a gift for critical medical equipment, call 313-876-1037.

TCAR: Shown to Prevent Stroke

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Treating carotid artery disease (CAD) for stenosis using TCAR is more patient-friendly than in the past:

- Less Invasive: A much smaller incision is made near the clavicle, using the trans-carotid approach. It is less risky than a transfemoral approach.
- Reduce Stroke Risk: Peri-surgical strokes have a reduced rate 1.4 percent² at 30 days, the lowest reported to date according to the *Journal of Vascular Surgery*. In addition, there are very low rates of cranial nerve injury and myocardial infarction due to the minimal surgical approach.
- **Comfort:** Local anesthesia is preferred, and typical hospital stays average of 1.8 days.

Henry Ford Health System is among a few in the country to offer TCAR, a new technology, to treat high risk patients with carotid artery disease. "Over 5,000 procedures have been performed worldwide, and the clinical data has been excellent," Dr. Nypaver concludes. At the national symposium titled Advances in Vascular Surgery and Endovascular Surgery, Dr. Nypaver presented Henry Ford Hospital's experience (approximately 30 patients) along with all the data and information concerning TCAR and its role. "Our results have been excellent with zero strokes and zero myocardial infarctions despite working on patients who are all in the high-risk category," concluded Dr. Nypaver.

To refer a patient to the Vascular Services at Henry Ford Health System, call 1-877-434-7470, or Henry Ford Alligance, call 517-205-1305.

¹ Crest Trial: Brott, T, Hobson, R, Howard, G, Roubin, G, Clark, W, Brooks, W, Mackey, A, Hill, M., Leimgruber, P, Sheffet, A, Howard, V, Moore, W., et al., for the CREST Investigators. Stenting versus Endarterectomy for Treatment of Carotid-Artery Stenosis. *New England Journal of Medicine*, 2010; 363:11-23

²Roadster Study: Malas, M, Igna Leal Lorenzo, J, Nejim, B, Hanover, T, Mehta, M, Kayshyap, V, Kwolek, J, and Cambria, R. Analysis of the ROADSTER pivotal and extended access cohorts shows excellent 1-year durability of transcarotid stenting with dynamic flow reversal. *J Vasc Surg* 69(6) June 2019. DOI:10.1016/j.jvs.2018.08.179

Kwolek, C, Jaff, M, Ignacio Leal, J, Hopkins, L, Shah, R, Hanover, T, Macdonald, S, and Cambria, R. Results of the ROADSTER multicenter trial of transcarotid stenting with dynamic flow reversal. *J Vasc Surg*, 2015 Nov, 63(5): 1227-34. Doi: 10.1016/j.jvs.2015.04.460.

RESEARCH

Nationwide Trial: First Metro Detroit Heart Failure Patients Treated with Stem Cells

The use of stem cell treatment for those who have ischemic systolic heart failure following a heart attack is now in trial at Henry Ford Health System. It is one of a couple sites in Michigan participating in the nationwide trial.

Previous studies, including those undertaken at Henry Ford Hospital, have shown the use of stem cells can repair and regenerate heart muscle function by improving the heart's ability to signal at the molecular level to more efficiently recover from a heart attack, along with helping to build up small blood vessels in the heart. As a result, patients who have had issues breathing or getting around due to early symptoms of heart failure experienced significant improvements in their condition.

"Any advancements we can make in the treatment of heart failure is a win for patients and the healthcare system in general."

Looking for a better quality of life, the first patient to participate in the study at Henry Ford Hospital is a metro Detroit-area man in his 60s. He was experiencing Class II to III symptoms of heart failure, with mild to moderate shortness of breath, as well as some limitation during ordinary activity, said Gerald Koenig, M.D., Ph.D., the principal site investigator for the CardiAMP Stem Cell Heart Failure Clinical Trial at Henry Ford Health System. Three additional patients have undergone the procedure. Among the four patients, there have been no ER visits or readmissions.

"Long-term, we hope it will improve the heart's pumping quality, so these patients have better control of their heart failure," said Dr. Koenig, interventional cardiologist, Director of Cardiac Catheterization Laboratory Clinical Research for the Henry Ford Heart & Vascular Institute and Chief of Medicine at Henry Ford West Bloomfield Hospital. "This can improve a patient's quality of life by reducing symptoms, plus it could significantly reduce the number of hospitalizations due to heart failure—and significantly reduce healthcare costs." Dr. Koenig has participated in other stem cell or gene-based trials at Henry Ford Health System, including one in 2012 looking at the effect

of injecting stem cells directly into the heart vessels shortly after patients experienced a heart attack. That trial found that the stem cells lessened the heart attack's magnitude. The current study provides stem cell treatment following a heart attack—but much later, when they are stable but experiencing heart failure symptoms.



Gerald Koenig, M.D., Ph.D.

The randomized interventional

study intends to have 250 participants with a ratio of 3:2 patients who will receive actual stem cells. Dr. Koenig shared that if the study proves successful, patients who did not receive stem cells during the trial will be offered the treatment at no cost after the trial. The trial procedure is routinely covered by Medicare and has received approval from other providers, he added.

The study continues to enroll patients, and Dr. Koenig expects to have preliminary outcome data in about a year.

The long-term prognosis for heart failure has about a 50 percent mortality at five years after the initial diagnosis. "Any advancements we can make in the treatment of heart failure is a win for patients and the healthcare system in general," said Dr. Henry Kim, Division Chief of Cardiology for Henry Ford Health System. "Heart failure is a big, long-term issue in cardiology."

There are seven Advanced Heart Failure Clinics throughout the Henry Ford Health System, including Henry Ford West Bloomfield Hospital. Additional locations include Detroit, Southfield, Clinton Township, Royal Oak, Washington Township, and Sterling Heights.

To refer a patient to a Henry Ford Health System Advanced Heart Failure clinic, please call: 313-916-2895.

To find out more about the trial, visit www.clinicaltrials.gov, or contact clinical research coordinator Melanee Schimmel, BSN, RN, at 313-916-7614 or mschimm2@hfhs.org.

RESEARCH

Inducing a Mini Heart Attack Helps Valve Patients, Study Shows

A study on the procedure of inducing a mini heart attack in patients with heart disease which was developed at Henry Ford Health System shows the non-traditional approach could be a viable option for patients in need of mitral valve replacement.

William W. O'Neill, M.D., medical director of the Henry Ford Center for Structural Heart Disease, and Dee Dee Wang, M.D., director of Structural Heart Imaging for the Center, developed the procedure with a team of cardiologists to address an often-fatal issue in transcatheter mitral valve replacement, or TMVR.



William W. O'Neill,

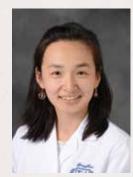
M.D., MSCAI

In some patients with smaller heart chamber anatomy, using a catheter

to thread a new valve into their heart and deploying it causes their native valve leaflet to block the flow of blood. This problem, called left ventricular outflow track (LVOT) obstruction, is nearly always fatal.

"More than 50 percent of mitral valve patients are eliminated from TMVR trials due to LVOT obstruction," Dr. O'Neill said. "So we were searching for a solution to save people's lives. Inducing a 'heart attack' seems counterintuitive in cardiology. But this new procedure looks very promising."

The team turned to alcohol septal ablation (ASA), a procedure used for the past 20 years to treat patients with thick, enlarged heart walls, or hypertrophic cardiomyopathy. Guided by high-definition, high-contrast ultrasound imaging done in real time, doctors performing ASA use a catheter to inject a tiny amount of alcohol into specific blood vessels feeding specific areas of the heart.



Dee Dee Wang, M.D.

This process 'kills' the heart muscle in that targeted area, much like a naturally occurring heart attack when the vessels are blocked. The ensuing lack of blood to that area causes the muscle to lose mass and thin out. The thinning of certain areas of the heart allows it to function more efficiently, and often results in decrease of symptoms such as severe shortness of breath or angina.

When the same technique is used in the muscle near where the new mitral valve would be placed, the muscle thins, allowing more room for blood to flow after TMVR.

Key to the process has been imaging work performed by Dr. Wang. In the landmark 2017 research that resulted in patented technology currently used during TMVR procedures, Dr. Wang established benchmark measurements of the LVOT opening that predicts success or failure in TMVR.

The study involved 30 patients with small LVOT openings who received ASA at six medical centers in the United States. Eight of the patients felt better after ASA and did not need the TMVR procedure. Twenty patients originally rejected for TMVR received the new valve after ASA, and their conditions improved.

"We were searching for a solution to save people's lives. Inducing a 'heart attack' seems counterintuitive in cardiology. But this new procedure looks very promising."

"Patients now have hope because this gives them a new option," said Dr. Wang. "We can widen that heart chamber area, so the patient has a large enough area to insert a new valve."

The complete study can be found in the *Journal of the American College of Cardiology's (JACC) Cardiology Interventions*. Volume 12, Issue 13, July 2019. DOI: 10.1016/j.jcin.2019.02.034

For more information on mitral valve replacement or other structural heart disease issues, visit Henryford.com/structuralheart or call: Henry Ford Macomb Structural Heart Disease Program: 800-532-2411; Henry Ford Allegiance Cardiology: 517-787-1234; Henry Ford Hospital, Center for Structural Heart Disease: 855-518-5100.



Pedro Villablanca Spinetto, M.D.

Cardiologist

MEDICAL SCHOOL EDUCATION Universidad de Valparaiso, Chile

FELLOWSHIPS

Henry Ford Hospital, Structural Heart Disease, MI

New York University School of Medicine, Interventional Cardiology, NY

Albert Einstein College of Medicine, Cardiovascular Disease, NY

RESIDENCIES & INTERNSHIPS

John H Stroger, Jr Hospital of Cook County, Internal Medicine, IL

Universidad De Chile, Internal Medicine, Chile



BOARD CERTIFICATIONS

American Board of Internal Medicine - Cardiovascular Disease

American Board of Internal Medicine - Internal Medicine

American Board of Internal Medicine - Interventional Cardiology

RESEARCH INTERESTS

Valvular heart disease interventions, adult congenital heart interventions, cardiogenic shock, mechanical circulatory support, coronary artery disease and peripheral interventions.

Dr. Villablanca Spinetto also speaks Spanish.



Pedro Villablanca Spinetto, M.D.

Syed Mehdi Jafri, D.O.

Cardiologist

MEDICAL SCHOOL EDUCATION

Nova Southeastern University, College of Osteopathic Medicine, Florida

FELLOWSHIP

Garden City Hospital, Cardiology, MI, 2018

RESIDENCIES & INTERNSHIPS

Garden City Hospital, Internal Medicine, MI, 2014

Hospitalist and general practitioner

BOARD CERTIFICATIONS

American Osteopathic Board of Internal Medicine -Cardiology

American Osteopathic Board of Internal Medicine – Nuclear Cardiology

American Osteopathic Board of Internal Medicine - Internal Medicine

Echocardiography

RESEARCH INTERESTS

Cardiorespiratory fitness and preventive medicine in the morbid obese population.

Dr. Jafri also speaks Hindi, Urdu.



Syed Mehdi Jafri, D.O.



Brittany S. Fuller, M.D. Interventional Cardiologist

MEDICAL SCHOOL EDUCATION Wayne State University School of Medicine, MI

FELLOWSHIPS Henry Ford Hospital, Interventional Cardiology, MI

Henry Ford Hospital, Cardiovascular Disease, MI

RESIDENCIES & INTERNSHIPS Henry Ford Hospital, Internal Medicine, MI



BOARD CERTIFICATIONS American Board of Internal Medicine - Cardiovascular Disease

American Board of Internal Medicine - Internal Medicine

RESEARCH INTERESTS

Contrast induced nephropathy, health disparities, cardiac sarcoidosis.



Brittany S. Fuller, M.D.

Bashar Hannawi, M.D. *Cardiologist*

SPECIALTIES Cardiology, Advanced Heart Failure and Transplant Cardiology

MEDICAL SCHOOL EDUCATION University of Tishreen, Faculty of Medicine, Latakia, Syria

FELLOWSHIPS Houston Methodist Hospital, Heart Transplantation, TX

Houston Methodist Hospital, Cardiovascular Disease, TX



BOARD CERTIFICATIONS American Board of Internal Medicine - Cardiovascular Disease

American Board of Internal Medicine - Internal Medicine

RESEARCH INTERESTS Imaging in mechanical circulatory support devices, platelet function and thrombosis.

Dr. Hannawi also speaks Arabic.



Bashar Hannawi, M.D.

Olusegun O. Osinbowale, M.D. Vascular Medicine

MEDICAL SCHOOL EDUCATION University of Cincinnati College Of Medicine, OH

FELLOWSHIP Cleveland Clinic, Vascular Medicine, OH

RESIDENCIES & INTERNSHIPS Riverside Methodist Hospital, Internal Medicine, OH

Ohio State University Wexner Medical Center, Family Medicine, OH



Ohio State University Wexner Medical Center, General Surgery, OH

BOARD CERTIFICATIONS American Board of Vascular Medicine

American Board of Family Medicine - Family Medicine

American Board of Internal Medicine - Internal Medicine



Olusegun O. Osinbowale, M.D.

To connect with a Henry Ford physician, call:

Heart & Vascular Institute 1-877-434-7470



Heart & Vascular Institute Henry Ford Hospital 2799 West Grand Boulevard Detroit, MI 48202 © 2019. All rights reserved.

IN THE NEWS



The Society for Cardiovascular Angiography and Interventions (SCAI) has selected Marvin Eng, M.D., as an early-career interventional cardiologist to participate in the 2019-21 Emerging Leader Mentorship (ELM) Program. Dr. Eng, research and fellowship director at Henry Ford Hospital, is one of 12 interventional cardiologists from across the

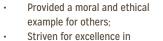


Marvin Eng, M.D.

United States and internationally to be chosen, based on his leadership potential and motivation to excel in areas of clinical care, scholarship, education and or advocacy.



Nominated by his peers, William W. O'Neill, M.D., MSCAI, is the recipient of the SCAI Helping Hearts Lifetime Service Award. To qualify for the award, Dr. O'Neill is a SCAI Fellow who has exemplified long-standing, substantive service to the Society and has:



patient care: and



William W. O'Neill, M.D., MSCAI



Our Left Ventricular Assist Device (LVAD) program has maintained the Joint Commission Gold Seal of Approval[™] since 2008. The program has again achieved all the requirements of the Joint Commission, to receive its 2019 certification. It also received advanced cer recognizes the commitment to meeting th



certification. It also received advanced certification which recognizes the commitment to meeting the highest national safety and quality standards.

Optum Health has included Henry Ford Transplant Institute to its Center of Excellence (COE) network,



for its heart, lung, liver and kidney transplant programs. The inclusion of the heart program in 2019 completes the successful participation in their solid organ COE network participation.



HENRY FORD WEST BLOOMFIELD HOSPITAL

The Electrophysiology Lab at Henry Ford West Bloomfield has expanded. This expansion allows electrophysiologists to have access to the most advanced technology and a dedicated space in which to diagnose and treat the electrical activity of the heart. The new EP Lab replicates the state-of-the-art facilities at Henry Ford Hospital.

• Dedicated himself to the highest professional standards.