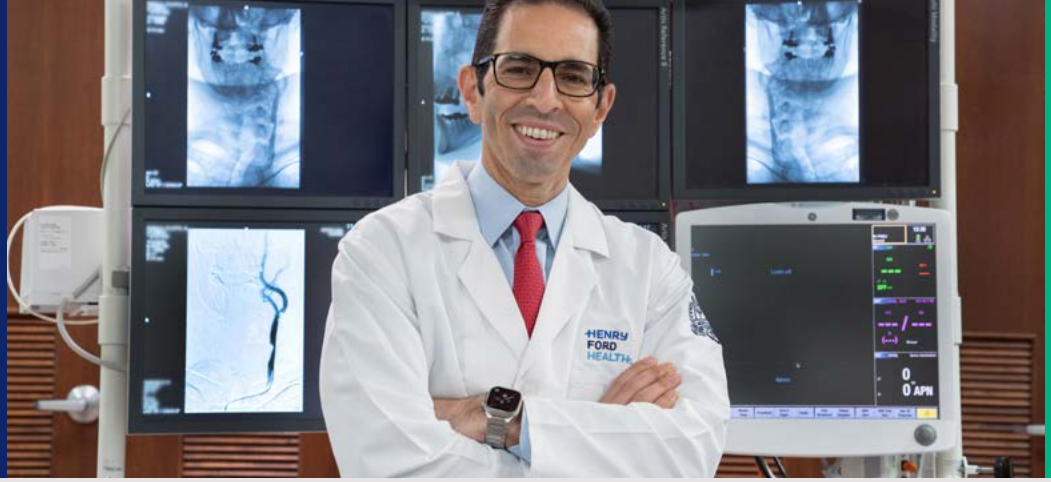
HENRY FORD HEALTH®
Heart & Vascular



Cardiovascular Connection

Summer 2024

RACE-IT study improves the protocol for exclusion of myocardial infarction

In a stepped-wedge, randomized study the real-world effectiveness and safety of a 0/1-hour accelerated protocol (AP) using high-sensitivity cardiac troponin I (hs-cTnI) to exclude myocardial infarction (MI) was compared to 0/3-hour routine standard care (SC) protocol. This Henry Ford Health study is the first of its kind done in the world. The effectiveness and safety of the new protocol ultimately led the nine involved Henry Ford Health emergency departments (EDs) to continue its use.

"It was a logical approach to include those who are most involved with emergency patients with suspected MIs. The triad of primary investigators represented emergency medicine, clinical chemistry and cardiology," said James McCord, M.D., cardiology associate program director for research. Joseph Miller, M.D., emergency medicine and Bernard Cook, PhD, division head, chemistry, along with over 50 cardiology staff, ED staff, cardiology fellows, internal medicine residents and chemistry staff in nine Henry Ford emergency departments executed the study.

RACE-IT (**R**APID **A**CUTE **C**ORONARY SYNDROME **E**VALUATION over 1 with High-Sensitivity Cardiac **I** **T**roponin), enrolled > 32,000 Henry Ford emergency patients, which also provided a diverse patient population. Unlike many other studies, 33% of the patients were Black.

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HENRY FORD HEALTH®

A message from

Herbert D. Aronow, M.D., M.P.H.
Medical Director,
Heart and Vascular Services
Benson Ford Chair in Heart & Vascular

Nancy Zehnpfennig, R.N., B.S.N., M.H.A.
System Vice President, Heart & Vascular
and Orthopaedic service lines

In this edition, we highlight some of the many accomplishments and notable events that have occurred since our last update, including the addition of new team members. We know you will find these to be of value for your patients.

The first commercial LimFlow case in Michigan was performed by Dr. Tamer Boules, Dr. Ajith Kadakol and team. LimFlow is a novel technology for patients with chronic limb-threatening ischemia with no traditional revascularization options that delivers oxygenated blood to ischemic tissue by creating a percutaneous arteriovenous shunt, facilitating symptom relief, wound healing and limb salvage.

The RACE-IT study, led by Drs. James McCord (Cardiovascular Medicine), Joseph Miller (Emergency Medicine) and

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Inside

First commercial LimFlow patient procedure in Michigan at Henry Ford West Bloomfield Hospital

Tamer Boules, M.D., and the Henry Ford West Bloomfield Hospital team celebrate the first in Michigan transcatheter arterialization of deep vein procedure using the (TADV) LimFlow system by INARI.

The first commercial procedure on a patient in Michigan using the LimFlow System was performed in March by Vascular and Endovascular Surgeon Tamer Boules, M.D., section chief and director of Vascular Services at Henry Ford West Bloomfield Hospital, assisted by Vascular Surgeon Ajith Kadakol, M.D. Using a minimally invasive procedure, the LimFlow System is designed to bypass blocked arteries in the leg into adjacent veins rushing blood back into the foot through new routes, potentially avoiding major amputation, while ultimately resolving pain from ischemia and promoting wound healing.

"This first procedure at Henry Ford Health really provides hope to patients who in the past may have thought they were out of traditional options and possibly facing the worst-case scenario of amputation," said Dr. Boules. Up to 20 % of critical limb-threatening ischemia (CLTI) patients have cases so severe that they run an exceedingly high risk of amputation within six months of diagnosis with currently available therapies and disproportionately impacts minority patients and patients from underserved communities.

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Bernard Cook (Chemistry), randomized > 32,000 emergency department patients from Henry Ford emergency departments to an accelerated (AP) vs. a standard troponin-based protocol to rule out myocardial infarction (MI) and found that the AP safely reduced time to rule out MI and was noninferior with respect to 30-day adverse events.

The SAFE-MCS study, led nationally by Co-Principal Investigator (PI) Dr. Babar Basir, and locally by Site PI and the trial's highest enroller, Dr. Brittany Fuller, enrolled patients undergoing complex, high-risk percutaneous coronary intervention using mechanical circulatory support (MCS) and evaluated the Early Bird Bleed Monitoring System (EBBMS). The EBBMS, employs bioimpedance technology for early detection of subclinical bleeding and was associated with significant reductions in the likelihood of BARC access site bleeds when compared to historical controls.

Dr. Jennifer Cowger served as lead investigator in the Aortic CRS pilot study evaluating the safety and feasibility of the Aortix intra-aortic entrainment pump in patients with acute decompensated heart failure and cardiorenal syndrome. The device, which augments flow in the aorta, appeared safe and was associated with favorable outcomes. Dr. Cowger also recently served as senior author in a JACC Scientific Statement on durable MCS.

The Henry Ford Health Heart and Vascular team are leaders in research that transfers to patient care.

Staff update

Vikas Aggarwal, M.D.
Cardiology

Medical School Education
Maulana Azad Medical College, New Delhi, India

Fellowship
Prairie Heart Institute, Springfield, IL, Advanced Structural and Endovascular Interventional Cardiology

Lewis Katz School of Medicine at Temple University, Philadelphia, PA Interventional Cardiology

University of Colorado School of Medicine, Aurora, CO Cardiovascular Medicine

Sabbatical
Kyushu University Hospital, Fukuoka, Japan Pulmonary Vascular Intervention

National Cerebral and Cardiovascular Center, Osaka, Japan Pulmonary Vascular Intervention

Residency
Albert Einstein College of Medicine (Jacobi), Bronx, NY Internal Medicine and Chief Resident

Board Certification
American Board of Internal Medicine - Internal Medicine.

National Board of Echocardiography - Adult Comprehensive Echocardiography

American Board of Internal Medicine - Cardiovascular Disease

American Board of Internal Medicine - Interventional Cardiology

American Board of Vascular Medicine - Vascular Medicine

American Board of Vascular Medicine - Endovascular Intervention

Research Interests
Dr. Aggarwal's research interests include studying mechanical properties of chronic pulmonary artery thrombus to using large administrative claims datasets via collaboration with colleagues and performing investigator initiated clinical trials in clinical venous-thromboembolism.

Locations
Henry Ford Hospital

Vikas Aggarwal, M.D.

Adam Hafeez, M.D.
Cardiology

Medical School Education
Wayne State University School of Medicine, MI

Fellowship
University of Florida Medical College, Interventional Cardiology, FL

University of Florida Medical College, Cardiovascular Disease, FL

Residency
Beaumont Hospital - Royal Oak, Internal Medicine, MI

Board Certifications
American Board of Internal Medicine - Cardiovascular Disease

American Board of Internal Medicine - Internal Medicine

American Board of Internal Medicine - Interventional Cardiology

Dr. Hafeez speaks fluent Urdu.

Clinical Interests
Dr. Hafeez' specialties and services include interventional cardiology, coronary artery disease and preventive medicine.

Locations
Henry Ford Wyandotte Hospital

Downriver Heart & Vascular Specialists PC

Adam Hafeez, M.D.

Research

RACE-IT study improves the protocol for exclusion of myocardial infarction

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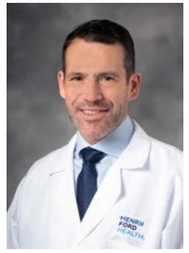
There were 13,505 and 19,104 patients evaluated in the SC and AP groups of whom 19,142 (58.7%) were discharged directly from the ED. There were no significant differences in safe discharges between SC and the AP (59.5% versus 57.8%) adjusted odds ratio (aOR) 1.05, 95% CI 0.95 – 1.16. At 30 days there were 90 deaths or MIs with 38 (0.4%) in the SC and 52 (0.4%) in the AP groups, aOR 0.84, 95% confidence interval (CI) 0.43-1.68.

James McCord, M.D.

Bernard Cook, PhD



Joseph Miller, M.D.

Added to the effectiveness of the AP, "the patient had less wait/observation time in the ER. If the 0/1 hour test excludes an MI, they leave the ER knowing that a MI within the next 30 days is highly unlikely. And a bonus was that the AP supports improved patient flow in the ER."

Dr. Miller explained the results found, "the study was very successful and the new protocol to be safe for the patient."

Figure 1 displays the high-sensitivity cardiac troponin I algorithms used in the study and the accelerated protocol that continues to be used.

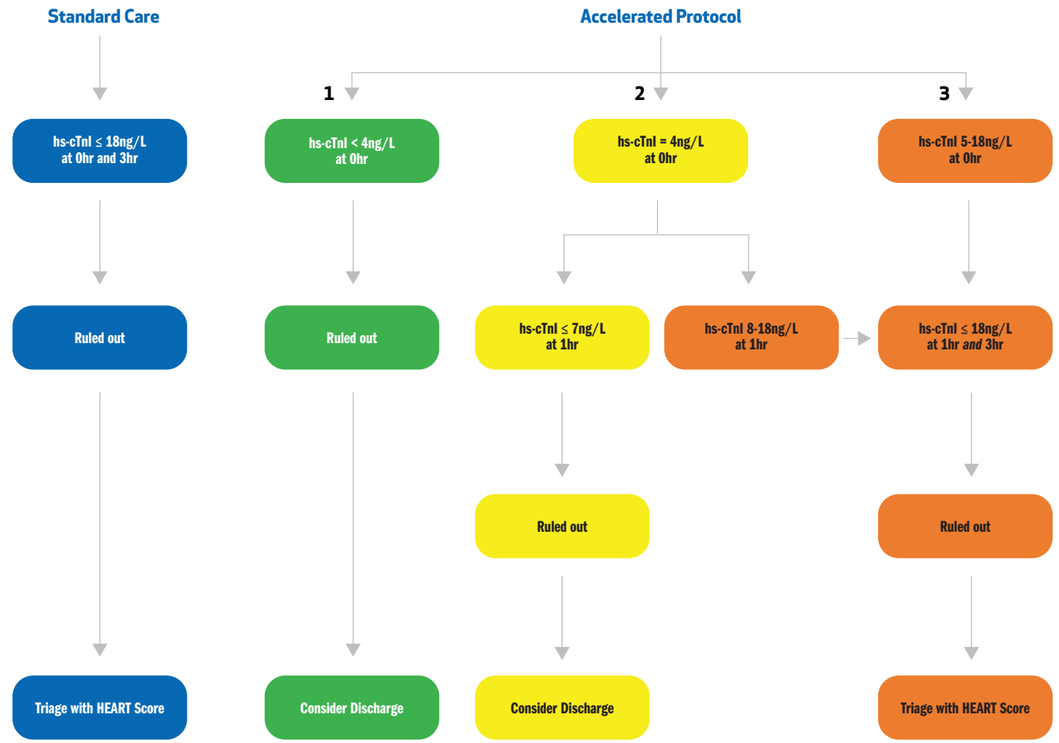
Table 1 shows the cardiac events that occurred within 30 days.

Table 1: Death, Myocardial Infarction, and Revascularization Procedures within 30 Days (Among Those Discharged from the Emergency Department or Observation Unit)

	All	Standard Care	Accelerated Protocol	Adjusted Odds Ratio (95% CI)*
Participants, n (%)	22,345	9,488	12,857	
Myocardial infarction/ all-cause death	90 (0.40%)	38 (0.40%)	52 (0.40%)	0.84 (0.43-1.68)
All-cause death	64 (0.29%)	33 (0.35%)	31 (0.24%)	0.65 (0.29-1.47)
Non-cardiac death	56 (0.25%)	29 (0.31%)	27 (0.21%)	0.53 (0.22-1.27)
Cardiac death	8 (0.04%)	4 (0.04%)	4 (0.03%)	2.54 (0.42-15.48)
Myocardial infarction	26 (0.12%)	5 (0.05%)	21 (0.16%)	1.98 (0.50-7.93)
Type 1	8 (0.04%)	4 (0.04%)	4 (0.03%)	0.67 (0.15-3.01)
Type 2	18 (0.08%)	1 (0.01%)	17 (0.13%)	23.57 (2.37-234.39)
Revascularization procedure	32 (0.14%)	14 (0.15%)	18 (0.14%)	0.99 (0.25-3.87)
CABG	5 (0.02%)	3 (0.03%)	2 (0.02%)	1.13 (0.12-10.41)
PCI	28 (0.13%)	12 (0.13%)	16 (0.12%)	1.02 (0.24-4.29)

**CI; confidence interval; CABG, coronary artery bypass surgery; PCI, percutaneous coronary intervention*

Figure 1: Suspected Myocardial Infarction Low Risk Disposition Algorithms



**Abbreviations: hr, hour; hs-cTnI, high-sensitivity cardiac troponin I*

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The full study can be found at:
McCord, J., Miller, J., Cook, B. et al. (2024). *Annals of Emergency Medicine*. Rapid acute coronary syndrome evaluation over 1 hour with high-sensitivity cardiac troponin I: a us based stepped-wedge, randomized trial.

Durable Mechanical Circulatory Support

Jennifer Cowger, M.D.

A state-of-the-art review on durable left ventricular assist device (dLVAD) support study led by Jennifer Cowger, M.D., MS, section head of Advanced Heart Failure, Transplant, and Mechanical Circulatory Support at Henry Ford Health in Detroit, MI and colleagues from other esteemed dLVAD programs was presented in the *Journal of The American College of Cardiology*. The work provided a summary of contemporary outcomes of patients undergoing dLVAD in the U.S. and in clinical trial. Importantly, patients with end stage heart failure have <50% survival at 2 years on medications alone. Those with the most severe form of heart failure—cardiogenic shock— have <50% survival at 30 days. However, patients undergoing dLVAD to help permanently replace the failing left heart can now achieve an average patient survival approaching 60% at five years. At two years, these survivals are similar to that of heart transplant.

Unfortunately, there are less than 170 LVAD programs in the U.S. and some states do not have a program dedicated to treating advanced heart failure with dLVAD or heart transplant. Thus, use of dLVAD therapy to treat end stage heart failure remains vastly under-utilized. Many clinicians are not trained in referral (who to refer and when to refer).

Table 1, included in the state-of-the-art review, details indicators that should prompt referral, allowing patients the opportunity to learn if dLVAD may be right for them. "These consultations," says Dr. Cowger, "also enhance patient trust with the local team. Consultation with an Advanced Heart Failure specialist who can discuss the risks and benefits of dLVAD or heart transplant in person or virtually helps build patient confidence in the local care teams. The referral shows patients that the local provider considered everything for their patient, even if additional treatment options are not needed or possible."

She added, "modern medicine is a team sport. We all want the best for our patients and advanced heart failure specialists truly want to help local providers in any way possible achieve the best survival and quality of life for those with end-stage heart disease. To see a patient go from being on ventilator in critical status to attending his granddaughter's softball game on dLVAD support is an amazing gift and, importantly, an opportunity for a second chance at life that we can share with more patients in 2024."

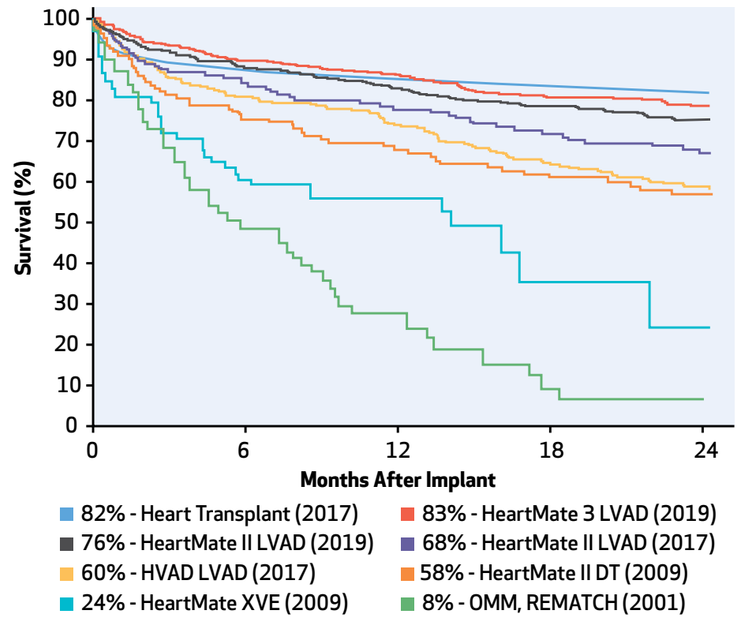
Two new trials of dLVAD support are slated to begin in the coming months. Reach out to your local advanced heart failure team or one of the authors above to arrange consultation.

Table 1: Clinical Findings of Advancing Heart Failure That Should Prompt Referral

Recurrent hospitalizations or emergency department visits for heart failure exacerbations despite guideline-directed medical therapy
Use of inotropes
High diuretic requirement
Worsening end-organ function
Inability to perform activities of daily living
Intolerance or de-escalation of guideline-directed medical therapy for heart failure
Reduced functional capacity with cardiopulmonary exercise testing or 6-minute walk test or inability to walk 1 or 2 blocks
Hypotension
Hyponatremia
Ventricular arrhythmias or discharges from internal cardioverter defibrillators
Significant left ventricular dilation with low left ventricular ejection fraction
Persistently high natriutetic peptides levels
Poor prognosis based on available heart failure risk score models (e.g. Seattle Heart Failure Model; MAGGIC [Meta-Analysis Global Group in Chronic Heart Failure])

In addition, the article highlighted the progress and challenges of Mechanical Circulatory Support (MCS) over the past two decades, contextualized MCS therapy and outcomes in the contemporary era, and discussed future technology and priorities (Central Illustration). Figure 1 shows the historical survival rates of patients on dLVAD support in the months following implant from 2017 through 2001.

FIGURE 1 Historical Survival on Durable LVAD Support



Historical survival of patients with advanced heart failure supported with durable left ventricular assist devices (LVADs) from pivotal clinical trials.[4,7,11,12,91] The **green and blue curves** depict the survival associated with medical therapy and early pulsatile LVAD technology (HeartMate XVE), respectively. Following the REMATCH trial, pulsatile pumps were replaced with smaller continuous-flow rotary pumps (HeartMate II and HeartWare HVAD [Medtronic Inc]), translating into improved survival **(orange, yellow, purple, and black curves)**. The contemporary continuous-flow rotary pump with total magnetic levitation of the internal impellor (HeartMate 3, **red curve**) is associated with a 2-year survival of 83%, paralleling that of heart transplantation. HeartMate II and HeartMate 3 are trademarks of Abbott or its related companies. Reproduced with permission of Abbott, ©2023. All rights reserved. DT = destination therapy; OMM = optimal medical management.

The article also notes that several new pump designs are or will soon be in clinical trials or evaluation. Wireless energy transfer devices may eliminate the percutaneous lead, novel blood propulsion mechanisms limiting shear stress on blood elements and enhancing pulsatile flow to attenuate hemocompatibilty-related AEs.

Dr. Cowger reports receiving significant compensation from Abbott, the maker of HeartMate LVADs, for her role as a consultant.

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To read the entire article visit https://www.jacc.org/doi/10.1016/j.jacc.2023.07.019

Tedford, R.J., Leacche, M., Lorts, A., Drakos, S.G., Pagani, F.D., Cowger, J. *Journal of The American College of Cardiology* Vol. 82, Nov. 14, 2023

First commercial LimFlow patient procedure in Michigan at Henry Ford West Bloomfield Hospital

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For some patients with peripheral artery disease (PAD) whose condition has progressed into CLTI this may be the best option. Some patients with CLTI have such severe blockages that they are not candidates for currently available treatments including balloon angioplasty, stenting, or bypass surgery, previously leaving only amputation as an option to relieve pain or treat developing gangrene.

The LimFlow System for transcatheter arterialization of deep veins (TADV) was approved by the Food & Drug Administration in the fall of 2023 is considered a last hope for people afflicted with severe vascular disease and forms of CLTI, or insufficient arterial blood flow, of the lower limbs, that can lead to complications such as severe pain, gangrene, or—if untreated—amputation.Dr. Boules added that this minimally invasive LimFlow procedure helps Henry Ford Health open the door to treating more people with this more severe form of PAD/CLTI, potentially saving more limbs and improving people's quality of life dramatically.

Successful First Patient

Tamer Boules, M.D.

The first Henry Ford Health LimFlow procedure went very smoothly, according to Dr. Boules. The patient had a history of PAD and had previously undergone procedures to improve blood flow to the leg with stents in the iliac arteries and surgery to the femoral artery. Those procedures improved the patient's condition for a while. "But as we see in a lot of patients with atherosclerosis, the blockages gradually progressed over the years until the smallest vessels were affected, especially those below the knee and in the foot," said Dr. Boules.

Because this first patient didn't have any other viable options like bypass surgery or angioplasty, he was medically evaluated for this new available treatment and found to be a good candidate for the procedure based on the locations of his blockages.

Ajith Kadakol, M.D.

"The patient did well with this procedure however it takes time for recovery when the legs and foot veins to which blood rerouted don't become arteries right away. They need time to convert or mature over a period of several weeks," said Dr. Boules. The success of this procedure will not be clear for 4–6 weeks. It is possible a secondary but less complicated procedure to fine tune the blood flow in the to the leg and foot may be necessary.

Dr. Boules shared that some of the earlier symptoms associated with PAD can be as mild as tiredness in one leg that occurs while walking. More alarming signs of progression to the more severe form, CLTI, include tissue loss in the form of open sores or dead tissue on the foot, gangrene of the toes, or severe pain from not enough blood flow to the skin and nerves on the front of the foot.

"We are experts in the care of patients with critical limb threatening ischemia, leading the way nationally and internationally through studies that have defined best outcomes," said Timothy Nypaver, M.D., division head of Vascular Surgery at Henry Ford Health. "This new and exciting procedure, performed by Dr. Boules, adds another option in the limb-saving procedural tool set that we can and will utilize to prevent an amputation." Dr. Nypaver also noted that Henry Ford Health is able to offer a multitude of options to tailor the intervention specific to the patient's needs and situation.

"This novel procedure pioneered by vascular surgeons and interventional cardiologists is a prime example of how multispecialty collaboration can augment patient care, and we are proud to offer this treatment option to our patients with severe peripheral artery disease," said Herb Aronow, M.D., MPH, medical director of Heart & Vascular Services at Henry Ford Health.

Prior to receiving commercial use FDA approval, the LimFlow System, made by INARI, was tested during two previous limited safety, feasibility, and effectiveness clinical trials dating back to 2017. Henry Ford Health is proud to be participating in the third phase of the trial, which will study the widespread results in patients who are receiving this available therapy at Henry Ford and across the country.

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To learn more about the first LimFlow procedure visit https://www.henryford.com/news/2024/03/first-hfh-limflow-commercial-patient or use the QR code.

Research

National study on novel bleeding monitoring system led by Henry Ford interventional cardiologists

Interventional cardiologists at Henry Ford Hospital led a national multi-center clinical study, dubbed the SAFE-MCS study, that evaluated the safety of complex high-risk percutaneous coronary intervention (PCI) using mechanical circulatory support (MCS) and surveillance with the Early Bird® Bleed Monitoring System (EBBMS).

The Early Bird® device is the only FDA-approved system for real-time bleed monitoring that represents a crucial advancement in reducing healthcare costs and improving patient outcomes during endovascular procedures. The Early Bird® device is designed to measure changes in bioimpedance to detect and monitor bleeding from vessel injury during endovascular procedures, where the femoral artery or vein is used to obtain vascular access. Significant reduction in bleeding complications in study's patients who were monitored by EBBMS signals a positive step toward advancing bleed detection technology for better patient care.

Babar Basir, D.O.

"This study is the first of its kind to specifically evaluate bleeding complications in patients undergoing protected PCI," said Babar Basir, D.O., director of Acute Mechanical Circulatory Support at Henry Ford Health and co-principal investigator of the study. "These findings are clinically significant and endorse the use of EBBMS for high-risk PCI patients who are receiving MCS support."

Brittany Fuller, M.D.

The study enrolled 203 patients across multiple U.S. locations, demonstrating the effectiveness of EBBMS in detecting and preventing bleeding complications during protected PCI procedures. Protected PCI or protected stenting is a widely accepted procedure using MCS to temporarily assist the pumping function of the heart.

Brittany Fuller, M.D., an interventional cardiologist at Henry Ford Health, was the institutional principal investigator and the highest enroller in the study. "I'm proud of Henry Ford Health's leading contributions to this study that has demonstrated the ability to markedly lower bleeding complications," said Dr. Fuller.

Dr. Basir presented the study's outcomes at the annual Cardiovascular Research Technologies (CRT) meeting, showcasing a significant reduction in severe bleeding events among monitored patients compared to historical data.

"The SAFE-MCS results highlight the importance of monitoring patients for bleeding to prevent severe complications and improve patient outcomes," said Herb Aronow, M.D., M.P.H., medical director of Heart & Vascular Services at Henry Ford Health.

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To view the animated Early Bird® Bleed Monitoring System, visit https://bit.ly/EarlyBirdSystem. To refer a patient call 1-877-434-7470. Scan to learn more about research in Cardiology.

Dr. Basir reports receiving significant compensation from Saranas for his role as a consultant.

Safety and performance of the Aortix device in acute decompensated heart failure and cardiorenal syndrome

Acute decompensated heart failure (ADHF) accounts for more than two million hospital admissions each year. Among that number one third have worsening renal function (WRF) due to cardiorenal syndrome (CRS). Approximately 60% of patients discharged with ADHF have persistent congestion and combined mortality and rehospitalization rates at nearly 50% at three months according to other studies which are limited to stabilized patients with ADHF or chronic heart failure outpatients NYHA functional class IV symptoms.

To date, consistent improvements in morbidity and mortality for patients with ADHF have not been demonstrated with application of standard medical therapies (including modified doses of diuretic agents and inotropes), novel drugs (e.g., nesiritide, tolvaptan, and serelaxin), or device-based approaches like intra-aortic balloon pumps or ultrafiltration.

Nonpharmacological therapies that complement standard of care may provide a means of achieving maximal decongestion. The Aortix device (Procyrion) is a 6-mm intra-aortic entrainment pump (IAEP) placed in the descending aorta that uses fluid entrainment to augment flow within the aorta. A portion of the native blood flow enters the pump, is accelerated by the pump, and exits in high velocity jets that entrain, or transfer momentum to, the flow that bypasses the pump. Entrainment allows the device to pump blood effectively into the renal artery while maintaining pulsatile flow. It also provides after load reduction for the heart. In pre-clinical studies, the pump has been shown to provide partial circulatory support (up to 3.5 L/min) at nominal speeds, leading to increased renal artery blood flow and pressure by >35%.

This multicenter (n = 14), nonrandomized, single-arm, safety and feasibility study of IAEP therapy was conducted. Within patient changes (post-pre IAEP therapy) in fluid loss, hemodynamics, patient-reported dyspnea, and serum biomarkers were assessed using Wilcoxon signed-rank testing.

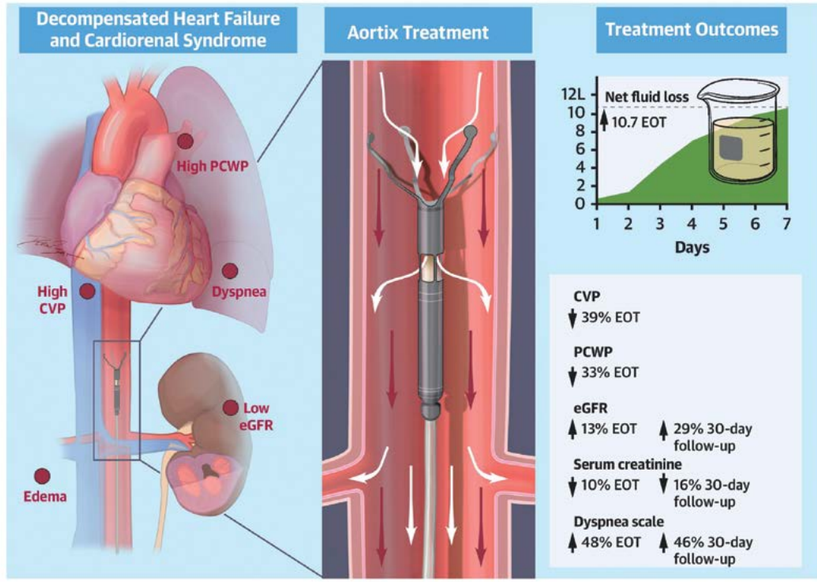
Jennifer Cowger, M.D., section head of Advanced Heart Failure, Transplant, and Mechanical Circulatory Support and one of the lead investigators of this pilot study, explained, "the aim of the study presented in *JACC: Heart Failure* in 2023, was to evaluate the potential benefit of an IAEP added to standard medical therapy in patients with ADHF complicated by persistent congestion and WRF caused by CRS."

Jennifer Cowger, M.D.

Of 21 patients enrolled, 18 received Aortix therapy. There was a mean standard deviation in patient age was 60.3+7.9 years. The median left ventricular ejection fraction was 22.5% (25th-75th percentile: 10.0%-53.5%); 27.8% had a left ventricular ejection fraction ≥50%. During pre-therapy, patients received 8.7+ 4.1 days of loop diuretic agents and 44% were on inotropes. Pump therapy averaged 4.6+1.6 days, yielding net fluid losses of 10.7+6.5 L (P<0.001) and significant (P<0.01) reductions in central venous pressure (change from baseline: -8.5 mm Hg [25th-75th percentile: -3.5 to -10.0 mm Hg]), pulmonary capillary wedge pressure (-11.0 mmHg [25th-75th percentile: -5.0 to -14.0mmHg]), and serum creatinine (-0.2 mg/dL [25th-75th percentile: -0.1 to -0.5 mg/dL]) with improved estimated glomerular filtration rate (+5.0 mL/min/1.73 m2 [25th-75th percentile: 2.0-9.0 mL/min/1.73 m²]) and patient-reported dyspnea score (+16 [25th-75th percentile: 3-37]). Dyspnea scores, natriuretic peptides, and renal function improvements persisted through 30 days.

According to Dr. Cowger, "the initial results are promising for patients with ADHF, persistent congestion, and worsening renal function, with evidence that the device can assist patients in safely achieving robust decongestion."

CENTRAL ILLUSTRATION: Effect of IAEP Therapy in Acute Decompensated Heart Failure



Cowger JA, et al. J Am Coll Cardiol HF. 2023;11(11):1565-1575.

Acute decompensated heart failure is complicated by cardiorenal syndrome in approximately one-third of patients. The Aortix device consists of a microaxial intra-aortic entrainment pump that is placed under fluoroscopic guidance above the renal arteries. With device support, patients were decongested based on changes in net fluid loss as well as hemodynamics including central venous pressure and pulmonary capillary wedge pressure. Through 30-day follow-up, there were sustained improvements in renal function, patient-reported dyspnea, and natriuretic peptides. Illustration by Devon Stuart. CVP = central venous pressure; eGFR = estimated glomerular filtration rate; EOT = end of therapy; IAEP = intra-aortic entrainment pump; PCWP = pulmonary capillary wedge pressure.

The results provided the basis for future randomized clinical trials of this novel pump (Diuretics Alone vs. Aortix Endovascular Device for Acute Heart Failure (DRAIN-HF), NCT05677100).

SCAN ME

To read the complete study, use this link: https://www.jacc.org/doi/10.1016/j.jchf.2023.06.018

Cowger, J.A., MD, Basir, M.B., Baran, D.A., Hayward, C.S., Rangaswami, J., Walton, A., Tita, C., Minear, S., Hakemi, E., Klein, L., Cheng, R., Wu, R., Mohanty, B.D., Heuring, J.J., Neely, E., Shah, P., on behalf of the Aortix CRS Pilot Study Investigators. *Journal of American College of Cardiology Heart Failure*, 2023 Nov, 11 (11) 1565–1575.

To connect with a Henry Ford physician, call:

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henryford.com

HENRY FORD HEALTH®

Heart & Vascular

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In the news

Selected as a master of the society of cardiovascular Angiography and interventions

Herbert Aronow, M.D.

Herbert Aronow, M.D. was select by the Fellows of the Society Master of the Society of Cardiovascular Angiography and Interventions (MSCAI). MSCAI status is given to those who have demonstrated excellence in interventional cardiology and a commitment to the highest levels of clinical care, innovation, publications, and teaching. Dr. Aronow was recognized at the 2024 Scientific Sessions of SCAI in May.

Society of vascular surgery 2024 excellence in community practice award

Sachinder Hans, M.D., has received the Society for Vascular Surgery 2024 Excellence in Community Practice Award. Dr. Hans was one of only three vascular surgeons nationally to receive this prestigious community award which recognizes his years of service and achievement during his years at Henry Ford Macomb Hospital. The award was presented in June at the Society's annual meeting.

Gold milestone recognition: 30 years of IAC vascular testing accreditation

Henry Ford Hospital Clinical Vascular Laboratory has received a Gold Milestone Recognition. It is the only facility in the state of Michigan to achieve IAC Vascular Testing (IAC) accreditation for 30 years. In doing so Henry Ford Hospital has demonstrated its long-term commitment to continuously improving patient outcomes and safety. Every three-year cycle, accredited facilities undergo an intensive application and review process to re-earn accreditation, with an assessment conducted by a panel of medical experts. The IAC accreditation process enables both the critical operational and technical components of the applicant facility to be assessed, including representative case studies and their corresponding final reports.

IAC accreditation assesses the many factors that contribute to an accurate diagnosis based on vascular testing. The training and experience of the technologist performing the procedure, the type of equipment used and the quality assessment metrics each facility is required to measure, all contribute to a positive patient outcome.

"We are extremely proud to recognize the 30-year, first group of accredited vascular testing facilities through the Gold milestone recognition program. It is a reminder of the importance of putting patients first and striving to continuously improve the quality of care provided," said Mary Lally, MS, CAE, CEO of the IAC.