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CARDIO BEAT

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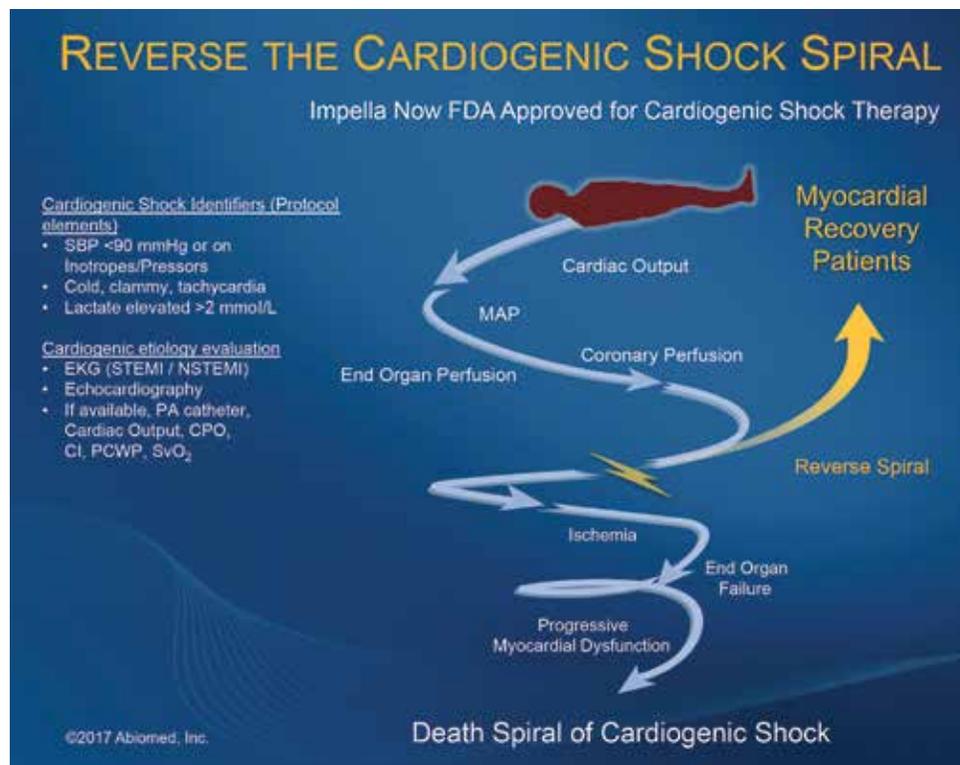
Unprecedented Collaboration By Metro Detroit Cardiologists Increases Heart Attack Survival Rates

Improving survival rates among patients who experience cardiogenic shock, a life-threatening side-effect to a heart attack, presented an opportunity for five major health systems in metro Detroit to collaborate. Together, cardiologists innovated a best practice that increased survival rates in cardiogenic shock patients. Among the hospitals participating in this initiative, a retrospective analysis of 30 patients having a heart attack and showing signs of cardiogenic shock demonstrated an 80 percent survival rate, compared to 50 percent with traditional treatment.

“This unprecedented effort shows the powerful advances we can make to save lives by working together,” said lead investigator William W. O’Neill, M.D., director of the Center for Structural Heart Disease at Henry Ford Hospital.

A massive heart attack suppresses the heart’s pumping function, depriving vital organs of blood flow and sending the patient into shock. The initiative began in July 2016 as doctors in the participating hospitals studied the approach of supporting the circulatory system quickly. To support the circulatory system, the Impella® heart pump is inserted through the femoral artery before the cause of the heart attack is treated with traditional procedures to open the blocked artery. “There is no question in our minds that early circulatory support is critical to improve the chance of a successful outcome in these critically ill patients,” said Simon Dixon, M.D., chair of Cardiovascular Medicine at Beaumont Hospital, Royal Oak.

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Collaboration Increases Survival Rates

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Study results published in the *American Journal of Cardiology* in December 2016 included patients who were supported with either the Impella 2.5™ or Impella CP®. The mean patient age was 66 ± 12.5 years, 76 percent were men, and mean left ventricular ejection fraction was 25 ± 12 percent. Before receiving the Impella® circulatory support device, 80 percent of patients required inotropes or vasopressors and 40 percent were supported with an intra-aortic balloon pump; 9 percent of patients were under active cardiopulmonary resuscitation at the time of the Impella® implantation. Survival to discharge was 44 percent.

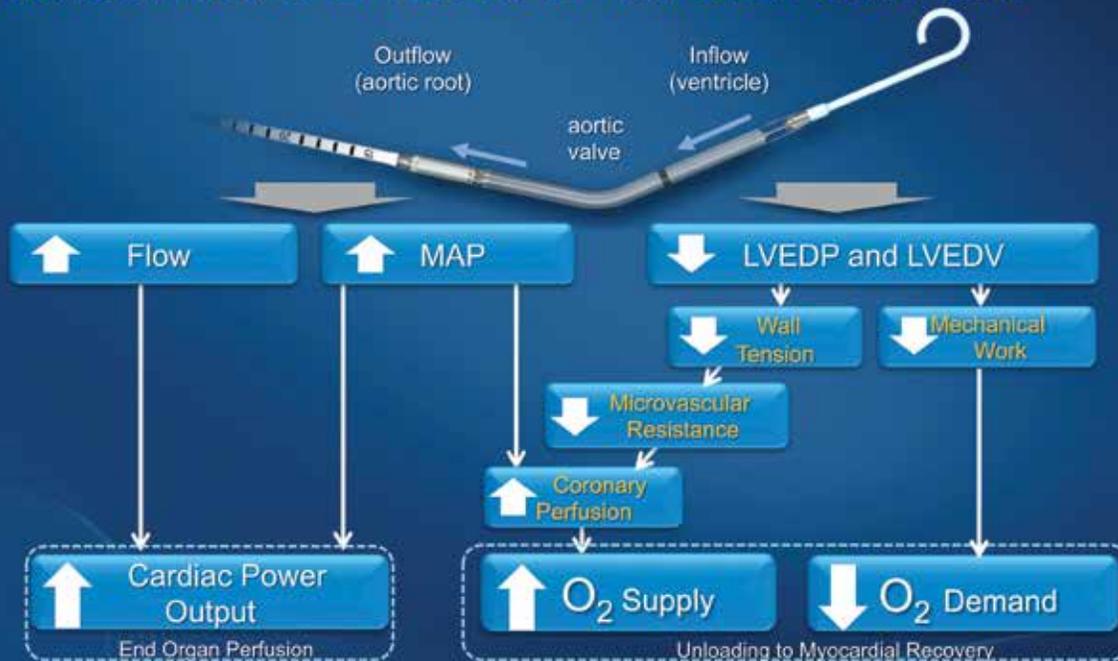
In a multivariate analysis, early implantation of the Impella® device before percutaneous coronary intervention (p = 0.04) and before requiring inotropes and vasopressors (p = 0.05) was associated with increased survival. Survival was 66 percent when mechanical circulatory support was initiated <1.25 hours from shock onset, 37 percent when initiated within 1.25 to 4.25 hours, and 26 percent when initiated

after 4.25 hours (p = 0.017). Survival was 68 percent, 46 percent, 35 percent, 35 percent, and 26 percent for patients requiring 0, 1, 2, 3, and ≥ 4 inotropes before inserting the support device, respectively (p <0.001).

“Cardiologists have been trying to move the needle on heart attack survival rate for years; this is a huge success,” said Thomas Lalonde, M.D., chief of Cardiology at St. John Hospital in Detroit. In a news conference held on February 8, doctors discussed the significance of their findings and the impact on patient survival. They also shared the mindset change – ‘door to balloon’ (angioplasty) has now advanced to ‘door to support.’

Patient Dan Ralston of Wyandotte had no history of cardiovascular disease, yet thinking he had the flu, he flatlined in the emergency room. Emotionally, he expressed his gratitude for the efforts of the initiative, “Without all of you I wouldn’t be here to tell you how grateful my family and I are today.”

HEMODYNAMIC EFFECTS OF IMPELLA® SUPPORT

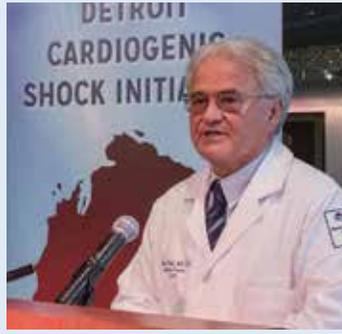


*References available at <http://cardiogenics shock.com/>

Dr. O'Neill proclaimed, "The best place in the country to experience cardiogenic shock is Detroit." On behalf of the initiative, he will bring the results to the annual American College of Cardiology Scientific Sessions in Washington D.C. in March. "Cardiologists across the country have been closely following this initiative to replicate and bring it to their patients as best practice," said Dr. O'Neill.

To learn more about the Cardiogenic Shock Initiative, please call 1-855-518-5100.

Top left: William O'Neill, M.D., addresses the media; Top right: Patient Dan Ralston of Wyandotte shares his experience; Bottom: Doctors at Henry Ford Hospital, Detroit, Beaumont Hospital in Royal Oak, Troy and Dearborn, St. John Hospital, Detroit, Providence Hospital, Southfield and St. Joseph Mercy Health System, Pontiac and Ann Arbor participated in the Cardiogenic Shock Initiative, also shown are patients Nate Thomas of Ferndale and Dan Ralston of Wyandotte.



VASCULAR MEDICINE

Protocol-Driven Care Improves Service And Quality

The methodology for treating wounds is now protocol-driven rather than physician-driven at Henry Ford West Bloomfield Hospital. Led by vascular services, with support from podiatry, family medicine and advanced providers, patients now receive the same care across all of these disciplines.

Data supports the best treatment for non-healing ulcers should be protocol-driven which has demonstrated positive results. For the patient, who may present in a podiatry clinic or family medicine clinic, their treatment will follow the same protocols, as if presenting in the vascular clinic.

Syed Ahsan, M.D., vascular medicine specialist, explains "A nursing home patient may never be seen by a wound care specialist for a pressure ulcer, however their primary care physician can follow the same treatment protocols we use in the wound care clinic. This expands the level of service into the community and provides a higher level of quality care each patient deserves."

The wound care program at West Bloomfield began during the past year and treats the following:

- An ulcer – a wound where the body is unable to heal itself in four to six weeks, and might include a diabetic ulcer or vein disease related ulcer.
- An arterial ulcer – caused from limited arterial blood flow causing the skin to break down.
- A pressure ulcer – prolonged pressure on the skin, usually in bony areas of the body, like heels, hips and the tailbone.
- A general wound – usually caused by an injury caused by a foreign object that is not healing.



Syed Ahsan, M.D.

Note: Burn care is not included in this program.

This protocol-driven model will be implemented in other Henry Ford locations in the near future.

To refer a patient to the Wound Care program at Henry Ford West Bloomfield Hospital, call 1-877-434-7470.

RESEARCH

Study Deems Transcaval Valve Replacement Pioneered At Henry Ford “Successful”

A pioneering way to access the heart for transcatheter valve replacement had a 98 percent success rate for the procedure in 100 patients in a multi-center trial, according to a study published in the *Journal of the American College of Cardiology* in December 2016. In less than one month, it was listed in the top 10 articles shared and discussed in the Journal during the year.

Henry Ford was the first hospital in the United States to perform the unique procedure called transcaval valve replacement, which accesses the heart by temporarily connecting major blood vessels in the patient’s abdomen. Adam Greenbaum, M.D., co-director at the Center for Structural Heart Disease at Henry Ford Hospital, led the team who performed the first procedure at Henry Ford on July 3, 2013.

Robert Lederman, M.D., an interventional cardiologist at the National Heart, Lung, and Blood Institute, developed the transcaval technique in a research setting. He came to Henry Ford in July 2013 to observe the initial procedure and share his insights.

During transcaval valve replacement, a wire is guided into a leg and up through the femoral vein. An opening between the vein and artery is widened to the point of allowing a catheter to connect them, continue to the heart, and implant the new artificial aortic heart valve.

As the catheter is removed, plugs are inserted in the artery and the vein to close the holes made for the temporary connection of the two major blood vessels. Dr. Greenbaum and the Center for Structural Heart Disease team at Henry Ford Hospital are the most experienced team performing the procedure in the United States.

Since 2013, the procedure has been performed when the patients were either too sick for traditional open heart surgery, or their anatomy – like small arteries – prevented the use of more traditional routes to the heart using a catheter.

“There were some doubters, so the reason we did this prospective trial was to prove that it could be done safely,” Dr. Greenbaum said at a news conference in Washington, D.C., of cardiovascular specialists focused on catheter-based treatments. “The success of this approach offers a new route for heart valve patients who may be out of options.”

For more information on heart valve replacement, call (313) 916-1878 or visit henryford.com/structuralheart.



Adam Greenbaum, M.D.

FIRST PATIENT

New Procedure For Untreatable Conditions

Northern Michigan resident Viola Waller was 80-years-old when she underwent Henry Ford’s first transcaval procedure at Henry Ford in 2013 after being told at another hospital her condition was untreatable. The mother of three, grandmother of five and great-grandmother of three now lives in Charlevoix in northern Michigan.

William O’Neill, M.D., medical director of the Center for Structural Heart Disease at Henry Ford Hospital, said the procedure could help 25,000 to 50,000 patients annually.

“The milestone brings a message of hope for other potential patients in Michigan and across the country,” said Dr. O’Neill.

Approximately five million people in the U.S. are diagnosed with heart valve disease annually. With an aging population that is often too frail for open-heart surgery, more than 20,000 Americans die of the disease each year, according to the American Heart Association.



Patient Viola Waller underwent the first transcaval procedure at Henry Ford Hospital in 2013.

Vascular Medicine Offers Non-surgical PAD Patients Hope

Screening a patient for Peripheral Artery Disease (PAD) can have two outcomes: 1) the patient requires vascular surgery to open narrowing arteries and improve oxygen-rich blood to flow to the legs and other limbs and organs, or 2) the patient is not a surgical candidate and may or may not experience pain.

Only 15 percent of patients with PAD present with claudication and require surgical intervention, however 85 percent of patients “wait” for the disease to progress to a surgical need. For non-surgical patients, Syed Ahsan, M.D., vascular medicine specialist, explains, “It does no good to just do the screening without establishing an ‘owner’ or a vascular medicine specialist to oversee the medical management of vascular disease for this type of patient.” For these patients, a shift to preventive care with the oversight of vascular medical management along with physical therapy and cardiac rehabilitation has shown positive results.

“When a patient indicates no pain, that does not always mean that PAD doesn’t exist, in fact 50 percent of patients with PAD are asymptomatic and pain is activity dependent. Therefore, primary care physicians and endocrinologists who treat smokers, hypertensive or diabetic patients are likely to miss PAD. A very important screening tool is to incorporate a non-invasive ABI test to enhance diagnostic capabilities. This screening can identify vascular blockage, even when the patient only experiences pain upon activity. Most insurances cover ABI screening, it is a quick and easy screening for the patient.

“When or if surgery becomes necessary for these patients, the surgical procedure is much easier for the vascular surgeon to perform and requires much less recovery time for the patient,” says Dr. Ahsan. For some patients, a vascular medical management approach may preclude future amputation.

Limb Salvage Clinic

In the Limb Salvage Clinic at Henry Ford West Bloomfield Hospital, the goal is to prolong function and quality of life. Dr. Ahsan shares, “Statistics show that in an advanced PAD situation where a limb is threatened, using the surgical-only approach leads to 25 percent of patients still dying; 25 percent continue to live with pain and symptoms, and another 25-50 percent may lose a limb in the process.”

A new approach to surgical intervention is the foot approach. Dr. Ahsan explains, “If the claudication is below the knee, the foot approach provides better success of increasing blood flow and circulation than the traditional approach. This is a fascinating new technique where a surgeon will gain entry into the artery from the foot and try to open the vessels from below in order to reestablish flow from the top. Contrary to belief that amputation only effects quality of life, that simply is not proven. In fact, the mortality rate is almost 1 in 5 among amputation patients.” The outcomes of this approach may significantly reduce morbidity.

To refer a non-surgical PAD patient to the Vascular Medicine program at Henry Ford West Bloomfield Hospital, please call 1-877-434-7470.

Editor’s Note: Peripheral artery disease (PAD) is caused by plaque build-up causing a condition called atherosclerosis, which over time narrows the arteries, limiting oxygen-rich blood to flow to the legs and other limbs and organs, and the head. PAD affects the peripheral arteries where coronary artery disease (CAD) affects the heart, yet PAD is more likely to occur than CAD.

STAFF UPDATE

Raed Alnajjar, M.D.
Cardiothoracic Surgery

**MEDICAL SCHOOL
EDUCATION:**

Jordan University
Medical School

POST-GRADUATE TRAINING:
Jordan University Hospital

St. Joseph Mercy-Oakland (MI) –
General Surgery

Baylor College of Medicine
and Texas Heart Institute (TX) –
Cardiothoracic Surgery

BOARD CERTIFICATION:
American Board Of
Thoracic Surgery –
Thoracic And Cardiac Surgery

American Board Of Surgery

Dr. Alnajjar is fluent in English
and Arabic.



Raed Alnajjar, M.D.
**Henry Ford
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To connect with a Henry Ford physician, call:

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1-877-434-7470

Center for Structural Heart Disease

1-855-518-5100



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Cardiac Support Conference

FRIDAY, JUNE 2, 2017, 8 A.M. - 5 P.M. | SATURDAY, JUNE 3, 2017, 8 A.M. - NOON
WESTIN BOOK CADILLAC HOTEL, 1114 WASHINGTON BLVD., DETROIT, MI 48226

Join the Henry Ford Heart & Vascular experts as they discuss cardiac support therapies. Live transcatheter procedures will be transmitted during the conference. CME and MOC credits are pending. At the completion of the course, the participant will be able to:

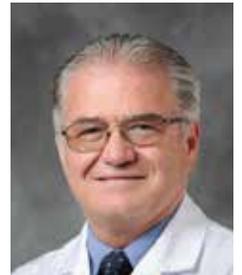
- Summarize the key concepts of the physiology behind and the rationale for hemodynamic support.
- Compare and contrast the various percutaneous hemodynamic support devices available.
- Describe the use of appropriate hemodynamic support devices based on the clinical scenario including: complex high-risk PCI, CTO PCI, structural heart procedures and other novel settings.
- Describe the management of hemodynamic support devices in the Cardiac Cath lab, Cardiovascular Intensive Care and other settings, including escalation and de-escalation of care, and access management.

Course Directors:

William W. O'Neill, M.D.
Medical Director
Center for Structural Heart Disease
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Khaldoon Alaswad, M.D.
Director
Cardiac Catheterization Laboratory
Henry Ford Hospital

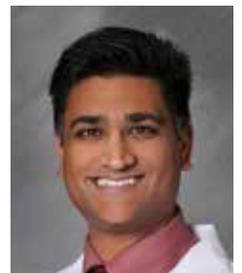
Akshay Khandelwal, MD
Director, Outpatient Cardiovascular Services, and Director, STEMI Program and Cath Lab Quality
Henry Ford Hospital



William W. O'Neill, M.D.



Khaldoon Alaswad, M.D.



Akshay Khandelwal, M.D.

**Mark your calendar! For more information
visit henryford.com/pcconference**