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# CARDIO BEAT

PUBLISHED BY HENRY FORD HEART & VASCULAR INSTITUTE

SPRING 2015

## First Transcaval Valve Replacement in Europe

After leading the team that performed the world's first transcaval valve replacement in July 2013, a renowned Henry Ford Hospital cardiologist is sharing his knowledge with others in the United States and Europe. Most recently, Adam Greenbaum, M.D., co-director of the Center for Structural Heart Disease at Henry Ford Hospital, shared the novel technique with Markus Kasel, M.D., at the German Heart Centre Munich. It was the first time the transcaval procedure had been performed in Europe.

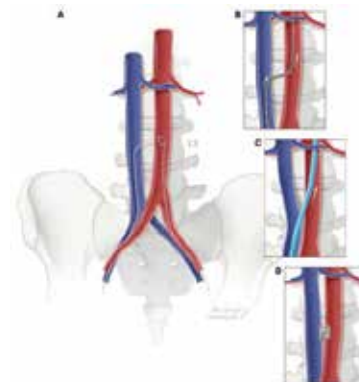
"We are pleased that the advanced cardiology procedures we perform at Henry Ford can help patients both here and around the world," says Dr. Greenbaum.

Transcaval valve replacement is a highly specialized procedure for patients who are not candidates for traditional valve replacement due to scar tissue, small arteries or other medical issues. During the procedure, a wire is guided into a leg and up through the femoral vein. Cardiologists then poke through the vein and a parallel artery in the abdomen. A catheter is then placed as a bridge between the two. Doctors can then use the catheter to move equipment through the vein, across the bridge and up through the artery into the heart to implant a new



Dr. Adam Greenbaum during one of the first transcaval valve replacement procedures.

artificial aortic heart valve. After the valve is placed, the catheter bridge is removed. A plug closes the holes in the artery and the vein so the two major blood vessels can function as normal.



The technique was perfected by Dr. Greenbaum; William W. O'Neill, M.D., medical director of the Center for Structural Heart Disease at Henry Ford Hospital; and Robert Lederman, M.D., an interventional cardiologist at the National Heart, Lung, and Blood Institute who developed the technique in the research setting.

Dr. Greenbaum worked alongside Dr. O'Neill and Gaetano Paone, M.D., division head of Cardiac Surgery at Henry Ford Hospital, to perform the first transcaval valve replacement at Henry Ford.

Henry Ford cardiologists estimate the procedure could help 25,000 to 50,000 patients in the United States annually. Now, the option will be available to patients in Europe, too.

*For more information about the transcaval valve replacement or to refer a patient, please call 1-877-434-7470.*

### »» INSIDE

SAVE THE DATE: *GET YOUR HEART RACING*  
JUNE 11-14

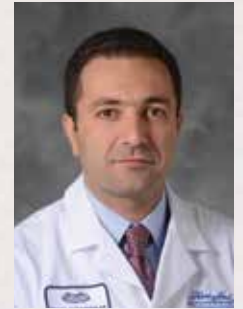
CARDIOLOGIST CAN OPEN 100 PERCENT  
ARTERIAL BLOCKAGE

3D MODELS PROVIDE GUIDANCE FOR  
VALVE REPLACEMENT

## STAFF UPDATE

## Have We Met?

*Jamil Borgi, M.D.*  
Senior Staff Surgeon



Jamil Borgi, M.D.

### MEDICAL SCHOOL EDUCATION:

American University of Beirut Medical Center, Beirut, Lebanon

### POST-GRADUATE TRAINING:

The American University Medical Center (Lebanon) – General Surgery  
Henry Ford Hospital (MI) – General Surgery (Chief Resident and Administrative Chief Resident)

University of Washington Medical Center (WA) – Cardiothoracic Surgery

### BOARD CERTIFICATION:

American Board of Surgery

### AREAS OF CLINICAL EXPERTISE INCLUDE:

Dr. Borgi's areas of clinical expertise and interest are cardiothoracic surgery including coronary artery disease, valvular heart disease, LVAD, lung transplantation and heart transplantation. Dr. Borgi is fluent in English, French and Arabic.

### PUBLICATIONS:

Dr. Borgi has authored numerous professional journal publications and two book chapters with a focus on adult cardiac surgery, mechanical circulatory support and surgical treatment of chronic thromboembolic pulmonary hypertension.

## COMMUNITY NEWS

## Save the Date:

## Get Your Heart Racing June 11-14

Grab a group and join the fun for the 5th Annual *Get Your Heart Racing*, the annual fundraiser for the Edith and Benson Ford Heart & Vascular Institute.

Join superstar Toby Keith for a private performance at the *Get Your Heart Racing* kickoff Pit Party Thurs., June 11, in Eastern Market Shed 3. Mingle with members of the Ford Racing Team at the pre-party Driver's Reception. Then, this year, *Get Your Heart Racing* groups for the first time get unprecedented access to NASCAR racing, June 12, 13 and 14 at the Michigan International Speedway (MIS) season kick-off race in Brooklyn, Mich.



To purchase ticket packages to this fun, exciting event, contact Kim Streich at 313-874-4039.



## Cardiologist Can Open 100 Percent Arterial Blockage

Last fall, a 62-year-old Chesterfield Township man was referred to the Henry Ford Heart & Vascular Institute for a challenging cardiac catheterization procedure. John Urban, a retired electrician and avid power walker and swimmer, had been diagnosed with a 100 percent blockage of a heart artery that had been stented once before. The new blockage left Urban struggling for breath with chest pain and unable to walk even two blocks.

His primary cardiologist in Mount Clemens, John Kazmierski, M.D., of McLaren Macomb Cardiovascular Institute, advised against open heart surgery. Other than the blocked artery, the rest of Urban's heart was in excellent shape. Instead, Dr. Kazmierski recommended Khaldoon Alaswad, M.D., one of the few cardiologists in the United States who successfully drills through 100 percent arterial blockages.

"I'm so thankful to my primary cardiologists because without them, this wouldn't have happened," says Urban. "They knew I needed someone with specialized expertise.



John Urban is back to power walking and an active lifestyle.

And they knew to send me to Henry Ford Hospital and Dr. Alaswad. They didn't even skip a beat; they said, 'You need to go here, now.'"

In October 2014, after initial consultations and tests, Dr. Alaswad performed a minimally invasive cardiac catheterization and stenting

procedure. Just weeks after the

procedure, Urban was back to his active lifestyle – swimming an hour, three times a week, and power walking even longer distances than before.

"As recently as a few years ago, patients like John had very few options," says Dr. Alaswad. "Now, it's very gratifying for the whole team at Henry Ford to see patients' lives improve so dramatically after the procedure."

*For more information or to refer a patient for arterial blockage drilling, please call 1-877-434-7470.*



Khaldoon Alaswad, M.D.

## Award-Winning Poster Presentation

Several Henry Ford cardiologists recently won "Best Abstract" at the 51st Annual Society of Thoracic Surgeons meeting in San Diego. The winning poster was titled "The Transcaval Approach as an Alternative to Transapical Access for Valve Delivery During Transcatheter Aortic Valve Replacement: Is it as Crazy as it Sounds?"

According to the authors, the poster demonstrates that transcaval aortic access and valve delivery is feasible and may represent an alternative approach to transapical access in patients undergoing TAVR who lack suitable femoral arterial access.

Authors of the winning poster are:

- Adam B. Greenbaum, M.D., Henry Ford Hospital
- Robert J. Lederman, M.D., National Heart, Lung, and Blood Institute
- Raymond L. Cooper, M.D., Henry Ford Hospital
- William W. O'Neill, M.D., Henry Ford Hospital
- Gaetano Paone, M.D., Henry Ford Hospital

To connect with a Henry Ford physician, call:

Heart & Vascular Institute  
**1-877-434-7470**

Center for Structural  
Heart Disease  
**1-855-518-5100**



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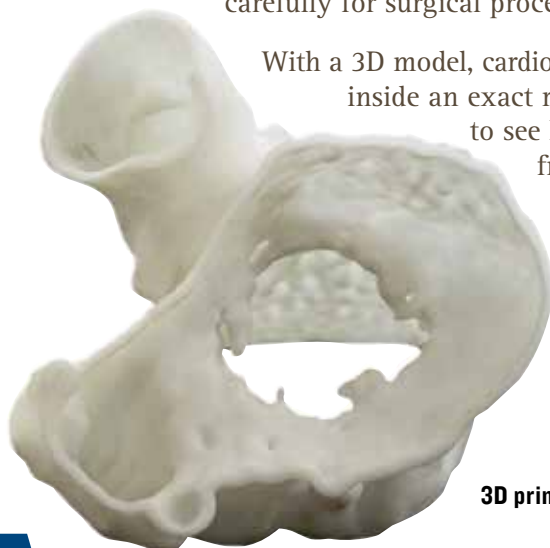
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## LATEST BREAKTHROUGHS

# 3D Models Provide Guidance for Valve Replacement

Additive manufacturing technology creates three-dimensional models of patients' hearts – helping Henry Ford cardiologists plan more carefully for valve replacement procedures and other cardiac interventions.

“We normally work in two dimensions, with an x-ray or a picture to guide us,” says Scott Dulchavsky, M.D., Ph.D., chief executive officer of the Henry Ford Innovation Institute. “3D printing allows us to plan more carefully for surgical procedures.”



With a 3D model, cardiologists can see inside an exact replica of the heart to see how valves would fit inside. They can even place valves inside the model to make sure they fit properly. This will become increasingly important as new

**3D printed heart model**

sizes and types of heart valves become available in the United States.

“There hasn’t been enough accuracy in figuring out exactly what size of valve to use,” said William W. O’Neill, M.D., medical director of the Center for Structural Heart Disease at Henry Ford Hospital. “In the future, there will be at least four types of valves available, so we need to determine what size and what type of valve to use. That’s where 3D modeling comes in. We’ll actually be able to take each individual valve in a patient’s heart model and put a valve in and see how it fits.”

Recently, 3D printing technology proved its value in a dramatic way – saving a patient’s life.

“A patient was referred to us and we thought we were going to be able to fix her mitral valve,” said Dr. O’Neill. “But when we did the model, we recognized that if we put a new valve inside the old valve, it would occlude the outflow to the heart and the patient would die. For sure, we prevented a death by using this model.”