TOP CARDIOTHORACIC SURGEONS

OF 2017

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Haskell Karp's heart was failing.

> In April 1969, the 48-year-old's heart couldn't pump enough blood, and after attempts to repair it failed, Dr. Denton Cooley set out to do something unconventional to save Karp.

Dr. Cooley and his team performed a three-hour operation to remove Karp's failing heart and replace it with an artificial heart. Though the first artificial heart transplant was successful, it spawned **a 40-year feud between Dr. Cooley and Dr. Michael DeBakey** (the creator of the artificial heart). Advancements in heart surgery and the creation of today's permanent ventricular assist devices would not have been possible without the hard work and dedication of these two surgeons.

Advancements in cardiothoracic surgery are continuing today thanks to the work of cardiothoracic surgeons across the country. In this eBook, we will take a look at some top surgeons making a difference in the field in 2017.

Our Methodology

This report profiles practicing cardiothoracic surgeons who have made significant contributions in the field of cardiothoracic surgery. They are in no particular order.

Top Cardiothoracic Surgeons of 2017

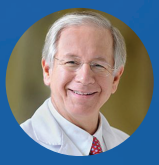
Dr. Michael J. Reardon

HOUSTON METHODIST

WHAT HE'S KNOWN FOR:

Expertise in cardiac tumor treatment and surgery, catheter-based approaches to structural heart disease, catheter-based and open aortic disease treatments, cardiac valve disease, aortic surgery, complex cardiac surgery.

A former student of **Drs. Cooley and DeBakey, Dr. Reardon has performed more primary cardiac sarcoma operations than any other surgeon globally**. He has also written extensively on the topic. His research has been published in a variety of publications, including The New England Journal of Medicine, Annals of Thoracic Surgery and Journal of Thoracic and Cardiovascular Surgery.



Dr. Joseph Coselli

BAYLOR COLLEGE OF MEDICINE

WHAT HE'S KNOWN FOR:

Focus on diseases of the aorta.

As chief of the division of cardiothoracic surgery at Baylor College of Medicine, **Dr. Coselli has spent nearly 30 years performing open thoracoabdominal aortic aneurysm (TAAA) repairs**. After spending close to 15,000 hours performing the procedure, Coselli and his team have perfected their technique, helping to reduce the risk of complications and early death.

In addition to TAAA repairs, Dr. Coselli focuses on diseases of the aorta. His research has been published in publications such as *The New England Journal of Medicine, The Annals of Thoracic Surgery and The Journal of Thoracic and Cardiovascular Surgery*.

Dr. Margarita Camacho

RJWBARNABAS HEALTH

WHAT SHE'S KNOWN FOR:

Personally retrieving transplant organs so she can monitor them in transit.

Dr. Camacho stands out in a male-dominated specialty. She is the president of the Society of Women in Thoracic Surgery, a fellow of the American College of Surgeons and a member of the International Society for Heart and Lung Transplantation and the Heart Failure Society of America.

In her over 20 year career, **Dr. Camacho has performed over 500 heart transplants**, and she does something most transplant surgeons don't when it comes to organ procurement — she personally retrieves the organ so she can monitor it in transit. She has been published in *The Annals of Thoracic Surgery* and more.

Dr. Michael Mack

HEART HOSPITAL BAYLOR PLANO

WHAT HE'S KNOWN FOR:

Research in minimally invasive surgery and percutaneous heart valve therapy.

A practicing cardiothoracic surgeon since 1982, **Dr. Mack has performed over 7,000 cardiac surgeries** and has made contributions to research in minimally invasive surgery and percutaneous heart valve therapy. He is the first surgeon to receive the TCT Career Achievement Award, which honors pioneers in interventional cardiovascular medicine.

Dr. Mack has authored or been the co-author of over 400 pieces in publications like *the American Journal of Cardiology, the New England Journal of Medicine and the Journal of the American Medical Association (JAMA): Surgical.*

Dr. John Elefteriades

YALE UNIVERSITY

WHAT HE'S KNOWN FOR:

Expertise on interventions for the failing left ventricle, including coronary artery bypass grafting, left ventricular aneurysmectomy and artifical heart implantation.

One of the most clinically active academic surgeons in the country, **Dr. Elefteriades is an authority on interventions for the failing left ventricle**, including coronary artery bypass grafting, left ventricular aneurysmectomy, and artificial heart implantation.

He is a founding member and director of the Aortic Institute at Yale-New Haven where he and his team developed **a 31-RNA gene chip that is 85 percent accurate** in determining if a patient has a thoracic aneurysm from a blood test only.

Dr. Steven Nissen

CLEVELAND CLINIC

WHAT HE'S KNOWN FOR:

Development of intravascular ultrasound (IVUS).

A pioneer in the development IVUS — an imaging technique that has led to insights in the systemic character of cardiovascular disease — **Dr. Nissen is the chair of the department of cardiovascular medicine at The Cleveland Clinic**.

In 1987, Dr. Nissen recognized that the **modern ultrasound technology of the time could be miniaturized and threaded into hearts** to reveal the exact composition of the plaques causing artery damage. This allowed Dr. Nissen and other physicians to accurately detect how well cholesterol medications were working. He has served as International Principal Investigator for several large IVUS multicenter atherosclerosis trials.

Dr. Duke Cameron

JOHNS HOPKINS HOSPITAL

WHAT HE'S KNOWN FOR:

Treatment of aortic aneurysm.

Recognized by the Society of Thoracic Surgeons for his treatment of patients with Marfan syndrome, Dr. Cameron is known for his work on **aortic aneurysms and valve-sparing aortic root replacements**.

Dr. Cameron previously held joint appointments at Johns Hopkins School of Medicine and the Royal Children's Hospital in Melbourne, Australia. He became known for **operating internationally**, often without pay, on adults and children in danger of dying.

He is the author of more than 160 peer reviewed articles and has written three books including *The Johns Hopkins Manual of Cardiac Surgery and Critical Heart Disease in Infants and Children.*

The Future of Cardiothoracic Surgery

By 2035 — less than 20 years — the average caseload for cardiothoracic surgeons could increase by 121 percent.

While that certainly means you'll be in demand, it also brings to mind the question: What will the cardiothoracic field look like in 2035? Will surgeons be using ultramodern technologies to diagnose and treat patients? Will patients be using technology to help diagnose and treat themselves? What will the world of surgery look like?

In his letter to residents shared with the American Association for Thoracic Surgery, Dr. Edward D. Verrier points out that to succeed in the future, cardiothoracic surgeons must:

- Partner with industry and embrace new technology
- Have better control of imaging
- Participate in solid scientific prospective clinical trials
- Maintain a basic scientific foundation
- Face change head-on
- Constructively adapt to disruptive challenges

The Role of Technology and Tools of the Future

In their commentary for the Journal of Cardiovascular and Thoracic Surgery, Drs. Tom Nguyen and Isaac George note that vascular surgeons were able to successfully evolve because they were proactive. And because they were proactive, vascular surgeons were able to adapt to the three key areas required for transformation:

- Wholesale clinical adoption
- Aggressive revision of training program paradigms
- Investment in clinical innovation

Adding More Tools to Your Treatment Toolbox

The right technology can provide the assistance you need to improve outcomes and prepare for the future.

ROBOT-ASSISTED MINIMALLY INVASIVE DIRECT CORONARY ARTERY BYPASS GRAFTING (MIDCAB)

In 35 consecutive patients who underwent MIDCAB via a small thoracotomy on a beating heart from 2005 to 2013, their internal thoracic arteries (ITAs) were endoscopically harvested through three ports using the da Vinci Surgical System in a completely skeletonized fashion before performing MIDCAB. The distal anastomosis was hand-sewn using a vacuum stabilizer. Flow was measured post-anastomosis using a Transonic intraoperative flowprobe.

INTRAOPERATIVE FLOW-MEASUREMENT TECHNOLOGY

Graft patency is a leading factor in both short-term and long-term positive CABG outcomes; with surgical and technological advances, any early graft failure is unacceptable, but yet it still happens. Today's intraoperative flow-measurement technology is being used to improve outcomes and reduce costs.