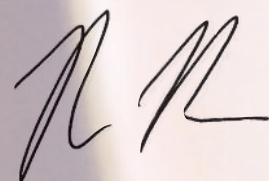




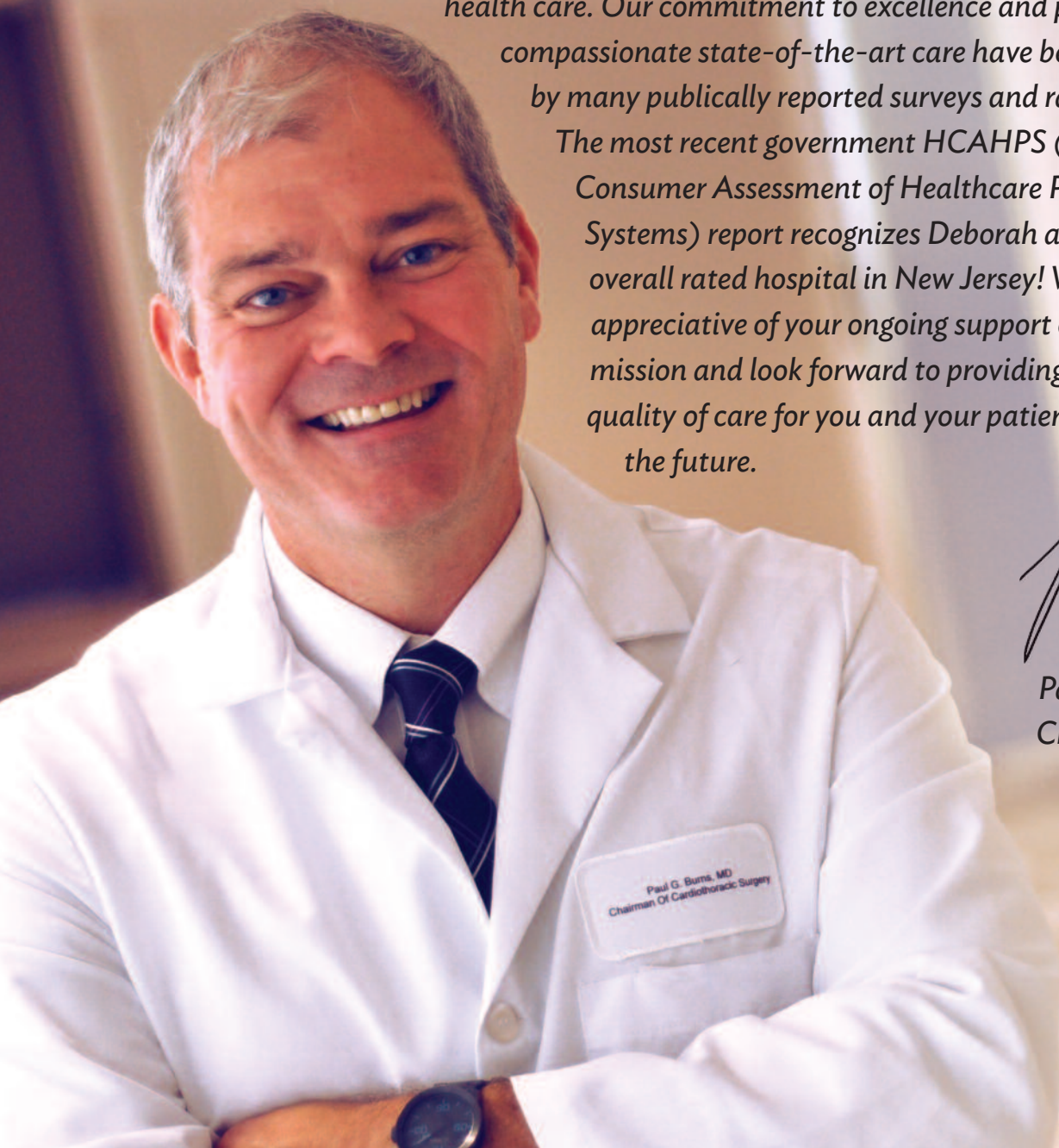
Cardiovascular Outcomes 2014

Dear Colleague,

Deborah Heart and Lung Center is pleased to share with you our most recent outcomes data. We have included the results produced by our cardiology, electrophysiology and vascular surgery divisions, in addition to cardiac surgery outcomes. At Deborah we believe that integration of different specialties—treating similar disease conditions—leads not only to optimal results, but provides the best and most efficient model of delivering health care. Our commitment to excellence and providing compassionate state-of-the-art care have been recognized by many publically reported surveys and rankings. The most recent government HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) report recognizes Deborah as the top overall rated hospital in New Jersey! We remain appreciative of your ongoing support of Deborah's mission and look forward to providing the highest quality of care for you and your patients in the future.



Paul Burns, MD
Chair of Surgery



The Deborah Story

Deborah is an extraordinary story, with beginnings traced to its founding in 1922 as a tuberculosis sanatorium and pulmonary center. According to legend, the therapeutic pine barren air of rural Burlington County was key to patient recovery. In reality, thousands of TB patients were medically treated and successfully cured by a heroic team of Deborah physicians. The heart of the Deborah Mission has always been compassion.

Historic Leadership.

With the development of antibiotic medications leading to the eradication of TB, Deborah began expanding its focus to other chest diseases. Dr. Charles Bailey, a pioneer in heart surgery, performed Deborah's first open heart surgery. The specialty of cardiac diseases was immediately embraced, transforming Deborah into New Jersey's only cardiac and pulmonary specialty hospital.

Next-Generation Healing.

Today, Deborah offers leading-edge surgical techniques and non-surgical alternatives for diagnosing and treating all forms of cardiac, vascular and pulmonary diseases in adults, including congenital heart defects in children.

Deborah is consistently recognized as a leader in patient care and innovative healing.

New advances in cardiac, pulmonary, and vascular care for patients are almost always available first at Deborah. Among the new procedures and technologies first brought to the region by the hospital are: Bronchial Thermoplasty for treating severe asthma; Orbital Atherectomy for clearing calcified blockages in the coronary arteries; radial artery (or wrist) catheterizations; new percutaneous interventional abdominal aortic stent graft repair; construction of the county's first hybrid OR, where Transcatheter Aortic Valve Replacement (TAVR) is performed percutaneously; and construction of the area's first Wound Care Center with hyperbaric chambers for intense oxygen therapy to promote wound healing. These are just some of the recent advances in the past few months. Deborah's companion Clinical Research Department keeps the hospital in the loop on the most promising new treatments and technologies.

When it's your family's health, don't settle.

Demand DeborahSM.

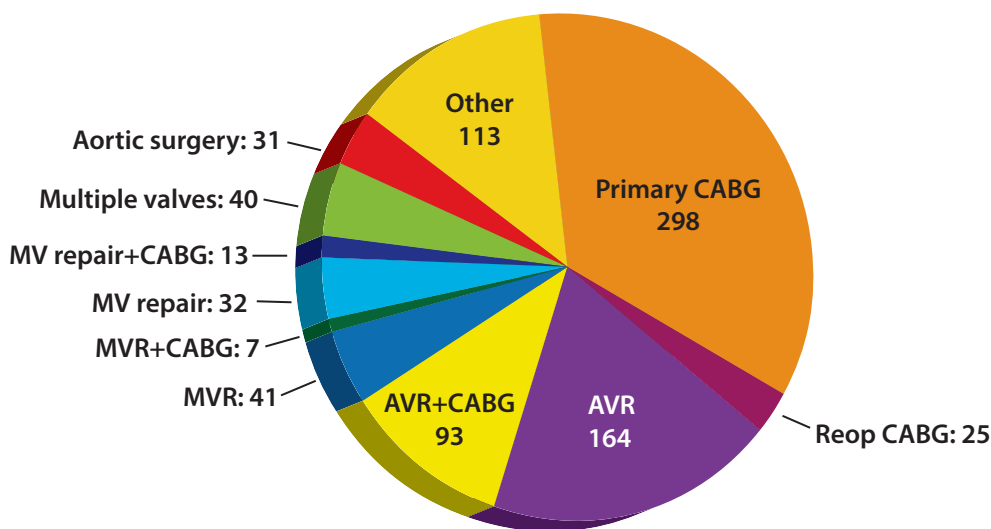


Cardiac Surgery Outcomes

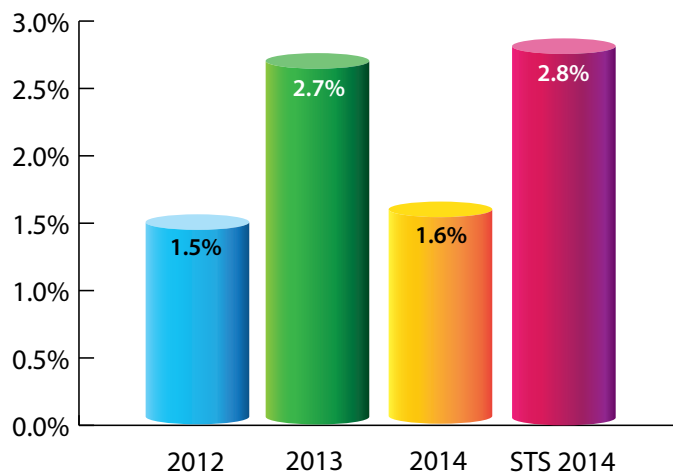
Program Volume and Performance

Deborah Heart and Lung Center performed 865 surgical procedures over the last three years (January 2012 to December 2014). As the management of cardiovascular disease continues to evolve, referrals for surgical management have changed during this period of time due to the advances and effectiveness of medical management and percutaneous interventions. Today, Deborah surgeons perform a higher percentage of valvular and other more complex procedures, such as redo surgery, than were traditionally performed in the past, with excellent outcomes.

Total Cardiac Surgeries

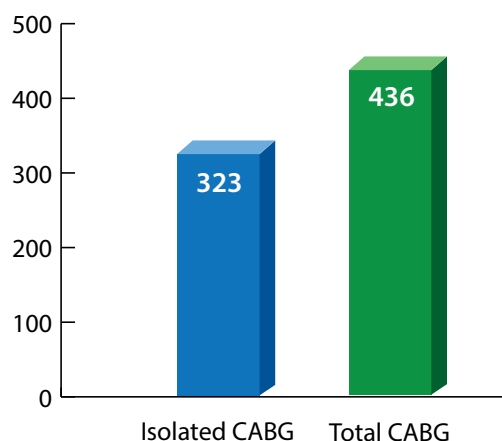


Major Procedures Operative Mortality



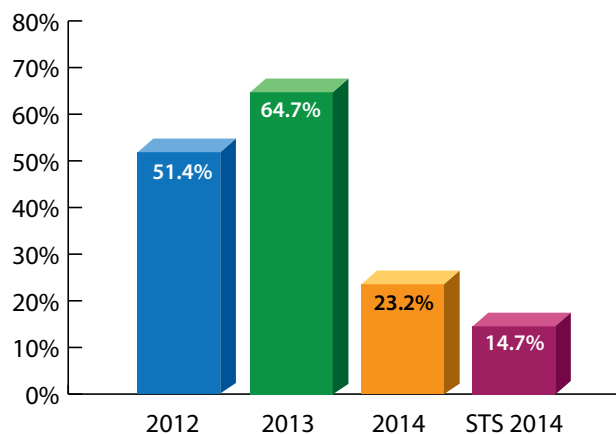
Coronary Artery Disease 2012-2014

Coronary artery bypass graft surgery (CABG) was developed more than fifty years ago. Over the past decade, national mortality rates have progressively improved. In addition to mortality rates, CABG success rates are measured by avoidance of major complications and utilizing less blood products.



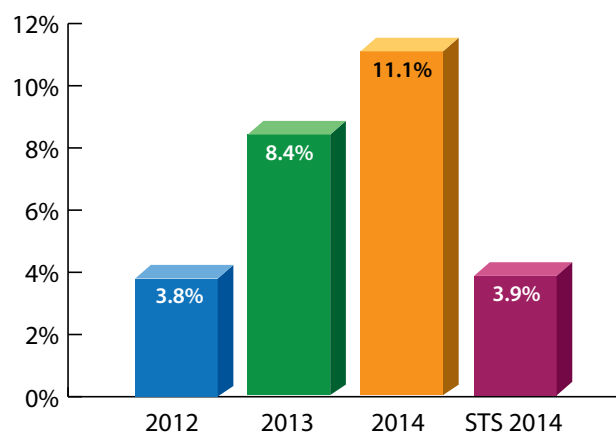
Off-Pump CABG 2012-2014

The avoidance of the heart-lung machine is beneficial in selected patients, especially those who are at higher risk of predicted mortality. Surgeons at Deborah have long embraced this off-pump technique for bypassing coronary arteries.



Redo CABG 2012-2014

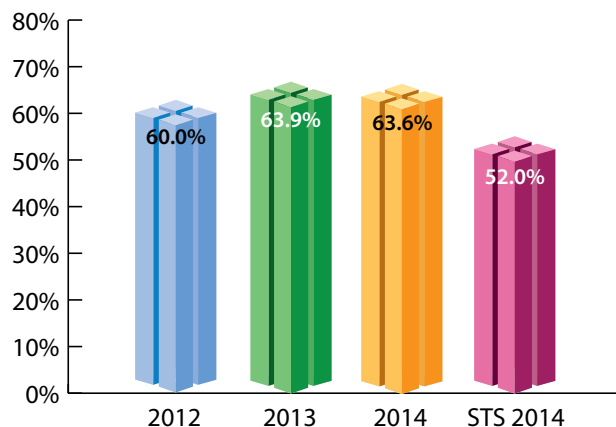
Patients undergoing second (or more) cardiac operations have an inherently higher risk. Deborah has a long history of performing such complex procedures.



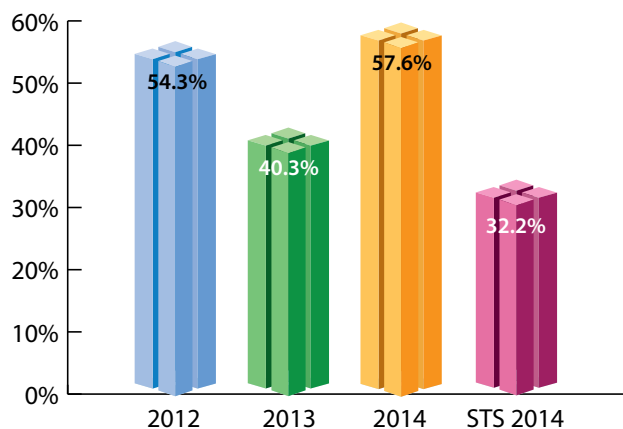
Severity of Risk

Various cardiac risk factors indicate that patients with more advanced coronary disease come to Deborah for surgery, compared to other heart centers.

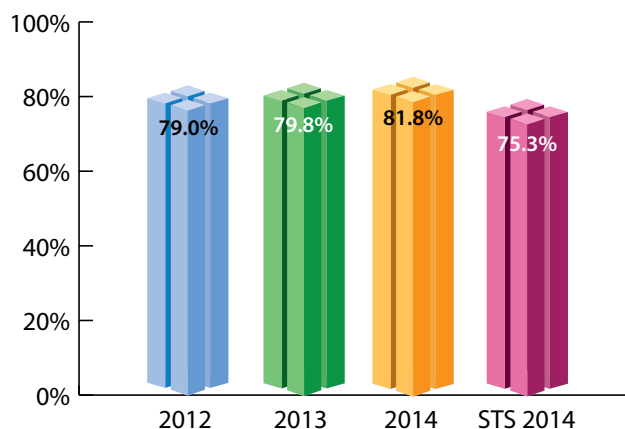
Previous Myocardial Infarction 2012-2014



Left Main Coronary Disease 2012-2014



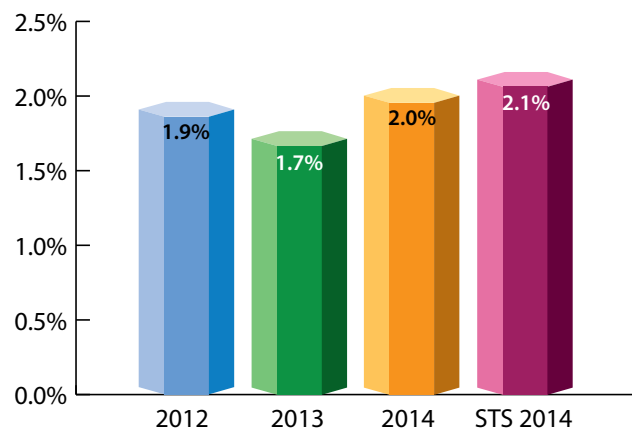
Triple Vessel Disease 2012-2014



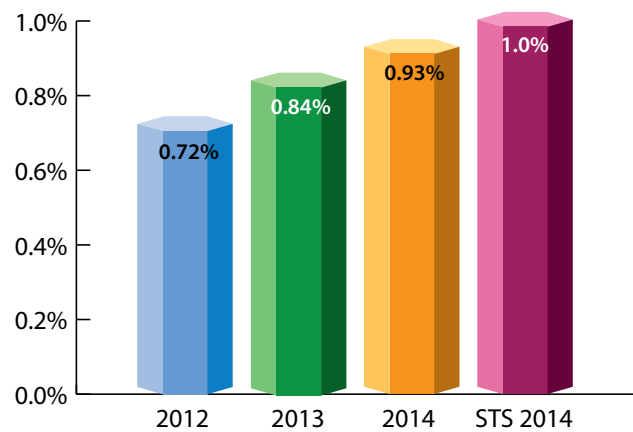
Cardiac Surgery Results:

Mortality rates are the percentage of patients who do not survive a procedure. These rates are “risk-adjusted” by the STS, based upon past experience of patients undergoing surgery in the United States. Observed to Expect Mortality Ratios measure how an observed result can be compared to the expected result as a ratio. A ratio less than 1.0 exceeds expectations.

CABG Mortality 2012-2014



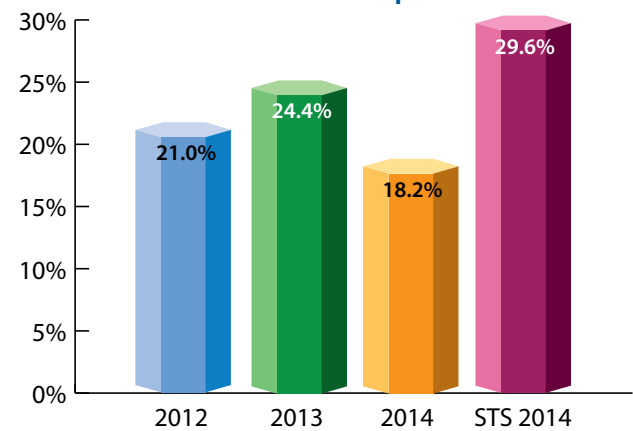
CABG O:E Ratio 2012-2014



Blood Utilization

Transfusion of blood and blood products has been shown to increase complication rates for patients. Intraoperative blood transfusion rates remain.

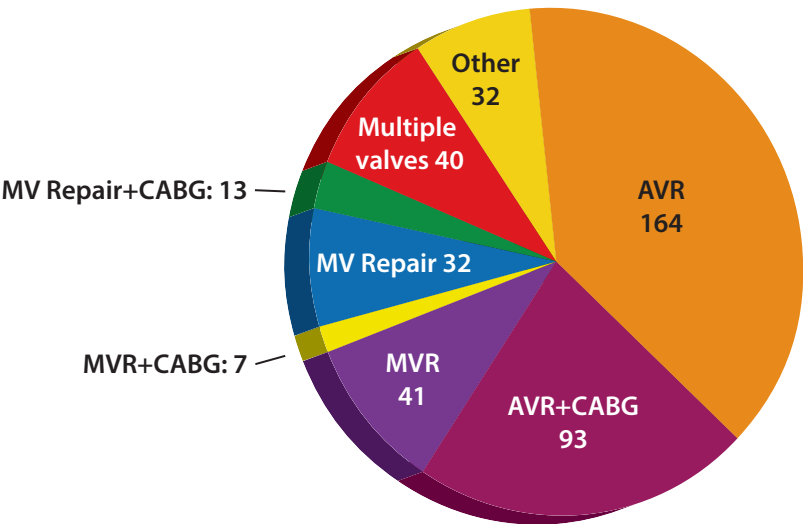
Intraoperative Blood Product Use
2012-2014



CABG Complication Rates

In addition to low mortality and transfusion rates, Deborah patients experience low complication rates that include cerebral vascular accident, renal failure, sternal wound infection and atrial fibrillation.

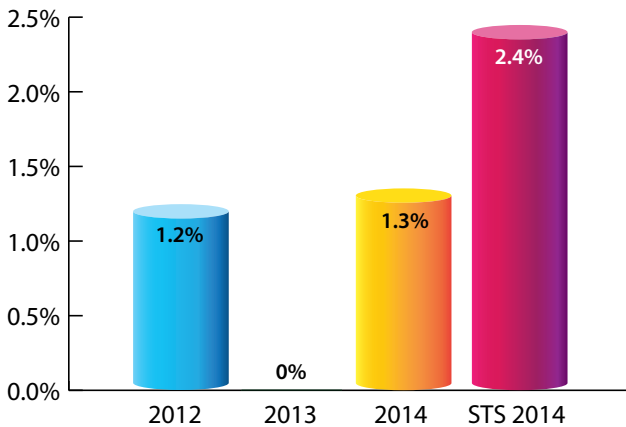
Valvular Heart Surgery



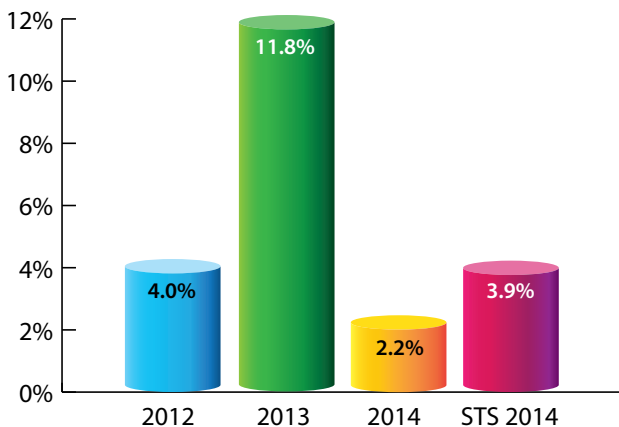
Aortic Valve Replacement

257 patients underwent replacement of their aortic valve as part of their surgery at Deborah between 2012 to 2014. These replacements occurred either as the primary indication for surgery or in combination with CABG, other valve or aortic surgery.

Isolated AVR Mortality 2012-2014



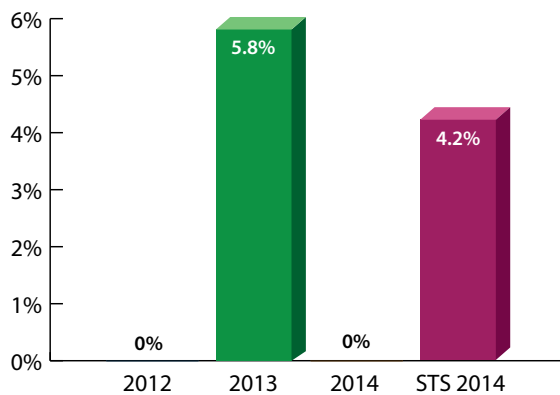
AVR+CABG Mortality 2012-2014



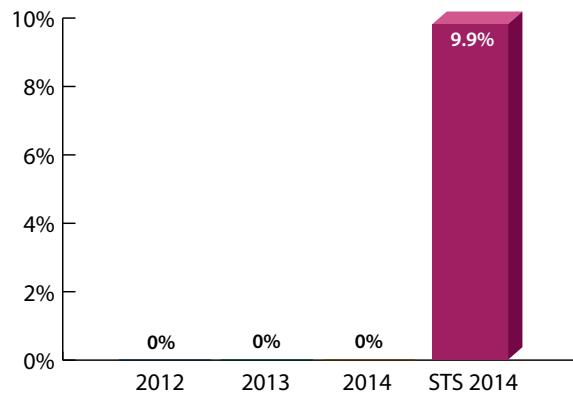
Mitral Valve Surgery

Patients who are candidates for mitral valve repair, especially those with degenerative disease, undergo a high percentage of successful repair at Deborah.

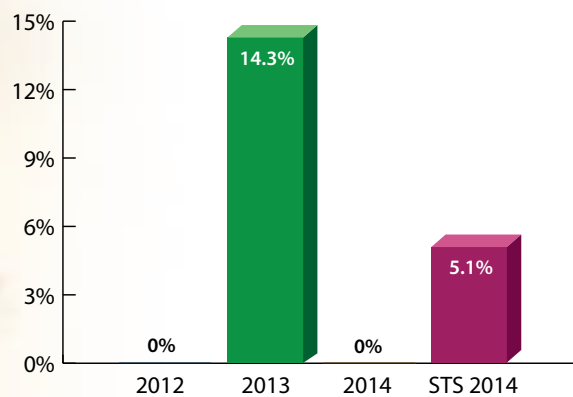
Isolated MVR Mortality 2012-2014



MVR+CABG Mortality 2012-2014



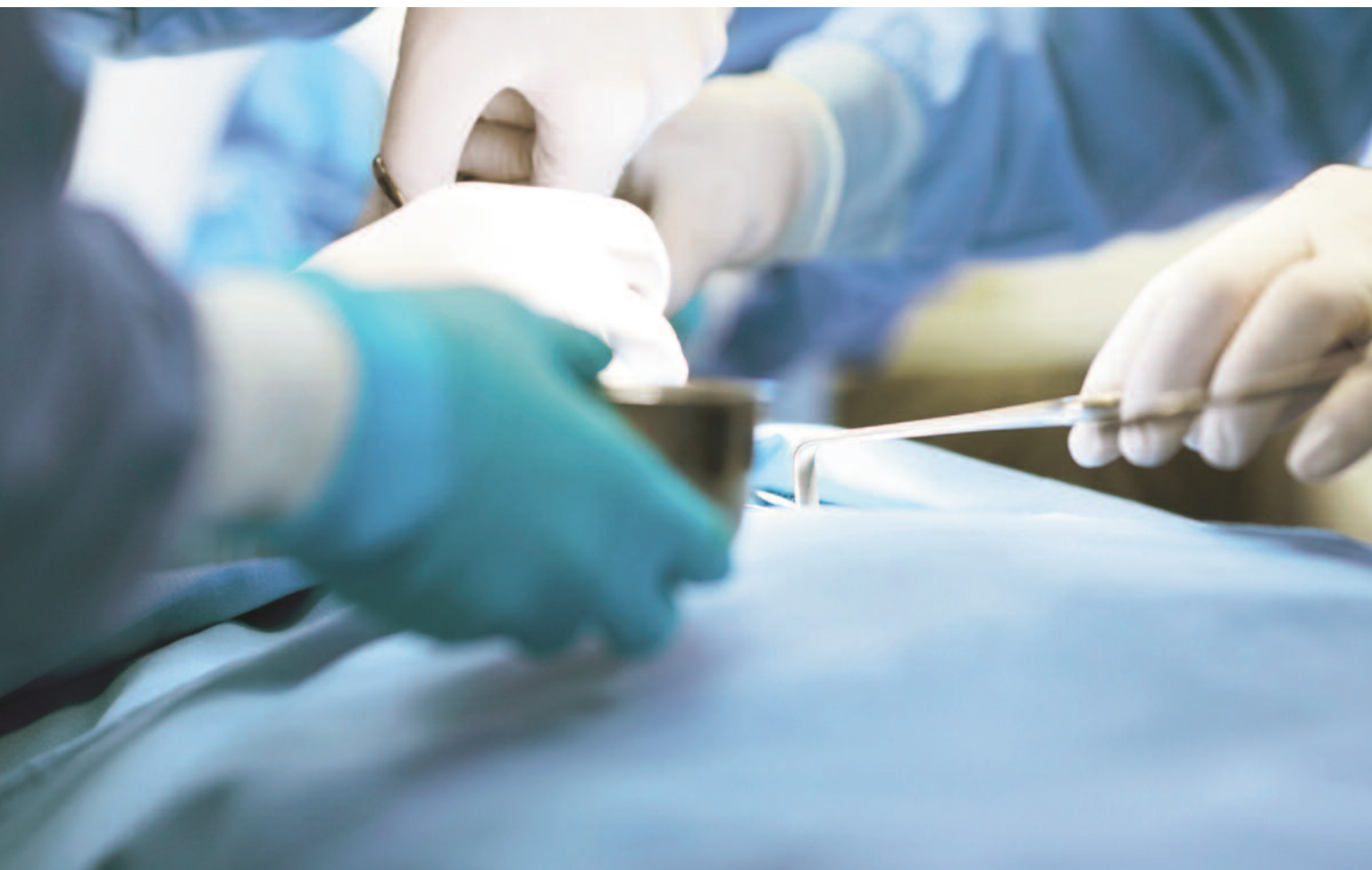
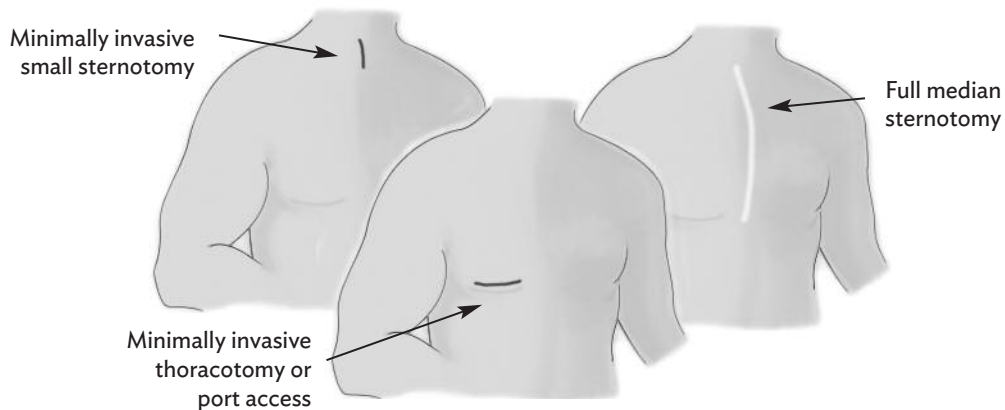
MV Repair+CABG Mortality 2012-2014



Ronald E. Ross, MD
Attending Cardiothoracic Surgeon

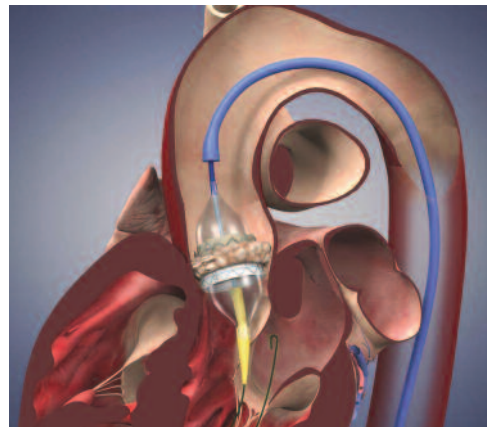
Minimally Invasive Surgery

Isolated valve surgery can often be performed through smaller incisions than the traditional full median sternotomy. While not all patients are candidates for minimally invasive procedures, surgeons at Deborah evaluate each individual to determine the best operative approach.



Transcatheter Aortic Valve Replacement (TAVR)

Introduced in 2014 at Deborah, TAVR is a minimally invasive procedure that replaces an aortic valve with a bovine valve that is mounted on a catheter to treat patients with calcific aortic valve stenosis. The procedure provides alternative treatment for patients who are a high risk for surgical aortic valve replacement. TAVR is truly minimally invasive and often requires either no incision or a small thoracotomy. These procedures are performed in Deborah's state-of-the-art hybrid operating room.



From Open-Heart to Minimally-Invasive...One Patient Has Experienced It All

Eighty-five-year-old Edward Masessa of Brick has had a long history with Deborah. The father of ten—with a brood of 23 grandchildren, 10 great-grandchildren, and 2 great, great-grandchildren—has the added Deborah experience of having a daughter who had surgery at the hospital 51 years ago.

That experience gave him an historic perspective on the early days of open-heart surgery.

“We had to donate 32 pints of blood for the surgery,” he recalls, “and had to bring four donors with the same blood type with us on the day of the surgery. It was quite intense.”

That successful early experience, which gave his daughter a second lease on life, never left his memory. When the active barbershop owner was out mowing the lawn one day and felt sick and tired, he followed his wife's advice and “...reluctantly went to the doctor.”

“I failed a stress test and had a cath, where they found two blocked arteries. They wanted

to operate. I said I have to go to Deborah.”

Masessa had successful bypass surgery in 1986 and he remained stable from a cardiac perspective. Then two years ago he returned to

Deborah where he received three stents and a pacemaker, and last year, he was one of the first patients treated in Deborah's new hybrid operating room, having a TAVR to receive a bovine valve replacement.

“After my valve replacement I was out of the hospital in two days. I went to church on Sunday

and when my pastor, Monsignor Brady, saw me receive Communion, he stopped me after Mass and asked me when I was going to have my surgery. He couldn't believe I had the operation on Wednesday and was here at church already!”

Masessa was impressed by how fast his recovery was after surgery in the hybrid OR. He also believes the positive, cheerful atmosphere at Deborah aided in his recovery. “Deborah has always been a great place to go.”

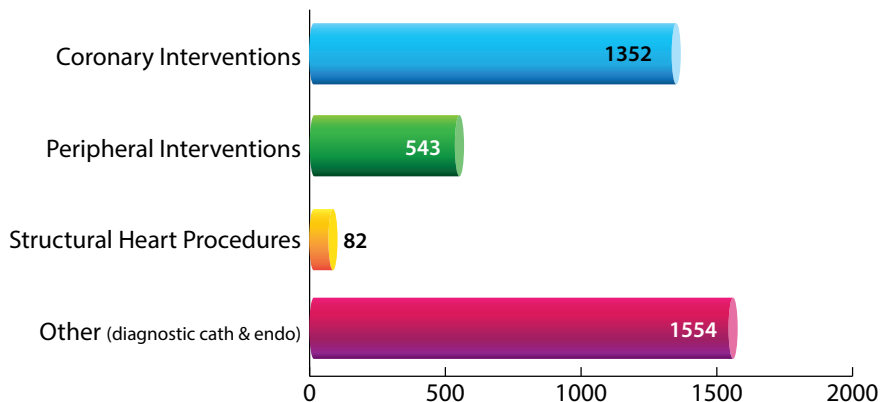


Interventional Outcomes

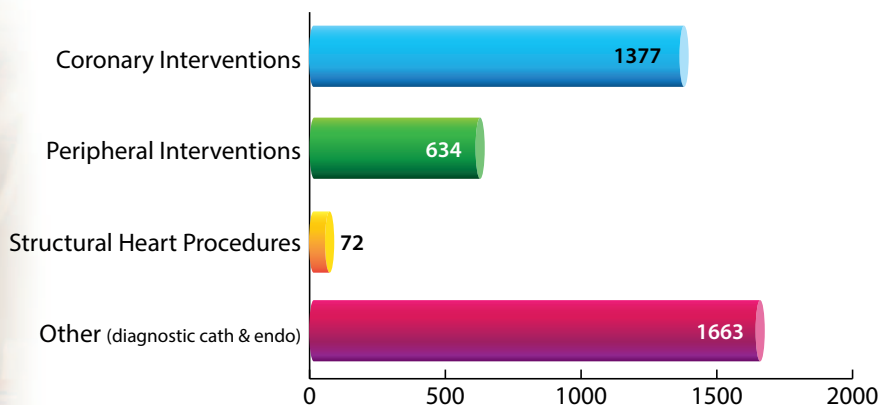
Over the past three years our procedure acuity has increased with a very minimal mortality rate.

We are now opening up arteries in the heart and the periphery that have been chronically occluded.

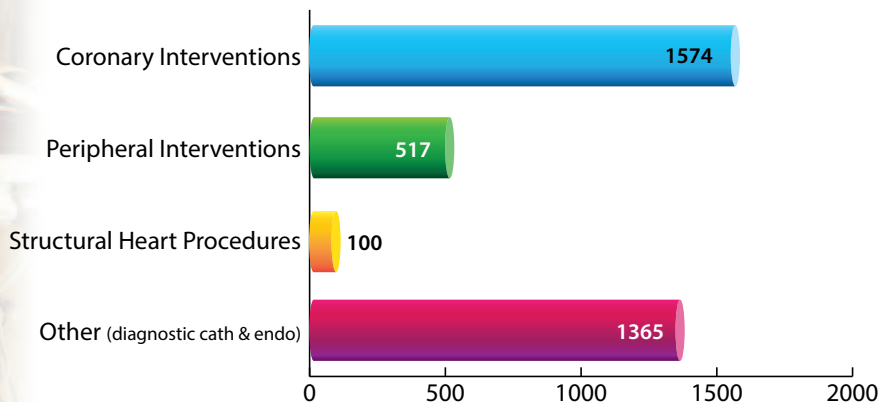
2012: Total-3531



2013: Total-3746



2014: Total-3556



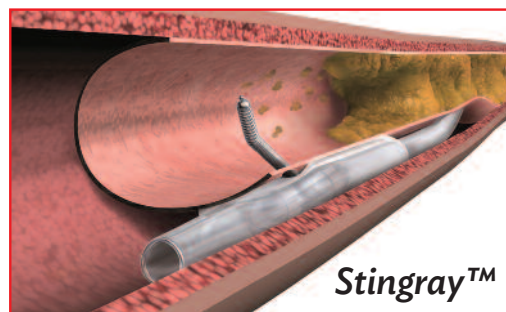
Richard Kovach, MD, FACC
Chair, Interventional Cardiology
Director, Cardiac Catheterization
Laboratory

Chronic Total Coronary Occlusion Program (CTO)

Technological advances for treating 100% chronically occluded coronary arteries are enabling numerous Deborah patients to avoid open heart bypass surgery, and have given them a new lease on life. Deborah's Chronic Total Coronary Occlusion (CTO) Program uses novel tools and techniques to approach CTOs and is achieving significant procedural success rates in crossing and opening these complex lesions.

In conjunction with new technologies from Boston Scientific and other manufacturers—such as the CrossBoss™ and Stingray™ Coronary CTO Crossing and Re-entry System, the only FDA-cleared devices for use in CTOs—Deborah's program offers a fresh approach to these complex cases, especially for those considered too risky for bypass operations or with anatomy not technically amenable to bypass surgery, and for those others whose surgical bypass grafts have also become occluded.

With these new technologies in place, along with Deborah's specialists' rigorous training in the techniques required to use these technologies, the hospital's interventional cardiologists are now able to create a new pathway for the treatment of completely blocked arteries.



The Next Generation ICDs

Deborah has remained on the cusp of each evolving generational advance in ICDs, from the original abdomen placement to the evolution of transvenous ICDs, to today's state-of-the-art subcutaneous implantable defibrillators (S-ICD).

The S-ICDs offer distinct advantages, since the device and lead are implanted just below the skin, without the need for accessing vasculature for connecting the lead to the heart. These revolutionary devices offer the same powerful protection against sudden cardiac arrest and avoid some potential complications associated with traditional defibrillators. They can also be implanted in patients in whom vascular access is problematic, such as patients on dialysis.

As cardiac device technology continues to improve, Deborah remains in the forefront of implementing new products, including a recent first implantation of the EMBLEM™ S-ICD System. This new S-ICD is 20-percent thinner than its predecessors and projected to last 40-percent longer than the previous S-ICDs, offering improved patient comfort and cosmetic outcomes. As well, the EMBLEM S-ICD System is enabled for remote patient monitoring, for increased patient convenience and safety.

Hybrid OR Procedures

Deborah's state-of-the-art Hybrid Operating Room features a 3-station computer system for continuous monitoring of a patient's hemodynamics. Real-time imaging is delivered through the robotic Siemens Artis Zeego® multi-axis angiography system, which permits integration with retrospective scans to drive extensive data analysis, increasing both the precision and safety of complex cardiovascular interventions.

The operations performed at the hospital represent collaboration among Deborah's skilled cardiac surgical staff, vascular surgeons and interventional cardiologists working side-by-side in one operating suite for blended procedures which combine multiple disciplines. With a full surgical and interventional team, joined with echocardiography and anesthesia professionals, the new Hybrid OR offers minimally-invasive approaches to challenging cardiovascular procedures.



Team Approach to Structural Heart Procedures

Deborah's innovative multidisciplinary approach for patients with advanced and complex structural heart disease now offers patients considered too risky for conventional open-heart surgery non-surgical alternatives with very effective long-term results.

Deborah's team—including cardiologists, interventional cardiologists, surgeons, imaging specialists, and anesthesiologists—works as a coordinated unit in the hospital's state-of-the-art hybrid operating room, where these complex catheter-based, or minimally-invasive, procedures can be performed with far less pain, and a quicker recovery than conventional open surgical procedures.

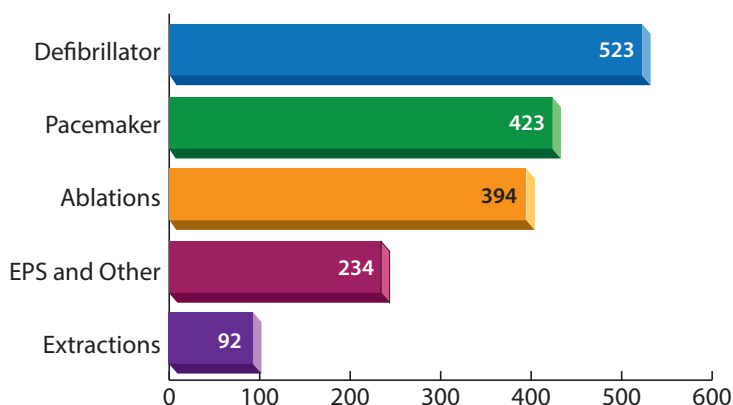
Deborah has performed over 254 minimally-invasive structural heart procedures from 2012 to 2014.

Electrophysiology Outcomes

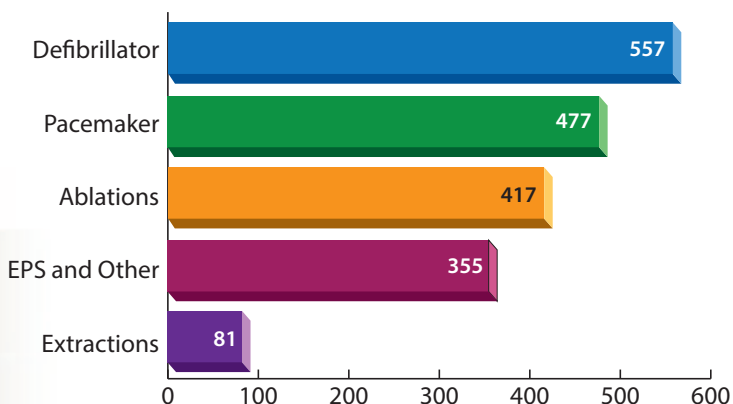
Deborah's electrophysiology services are devoted to the evaluation, consultation and treatment of complex cardiac arrhythmias, including atrial fibrillation and flutter, supraventricular tachycardia including Wolff-Parkinson-White-Syndrome, and ventricular tachycardia.

Comprehensive device therapy is also included in the EPS service. Pacemaker and defibrillator implants—as well as lead extractions—are offered for standard indications. Biventricular devices are available for emerging indications, including congestive heart failure.

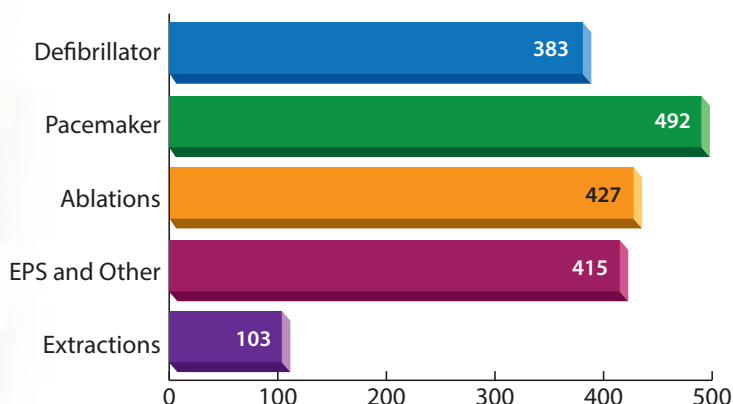
2012: Total-1666



2013: Total-1887



2014: Total-1820



Raffaele Corbisiero, MD, FACC
Chair, Electrophysiology and Pacing
Director, Electromechanical
Therapy Institute

Robotic Ablations

Robotic ablation is a safer and more effective ablation for patients with heart rhythm disorders. Cardiac arrhythmias treated by Deborah electrophysiologists with the Stereotaxis Remote Navigation System—navigating to those areas of heart tissue responsible for the irregularity and inactivating them—offers patients excellent outcomes.

Deborah is ranked among the top ten ablation centers in the United States, drawing on a combined twenty years of experience with well over 100 robotic ablations.

The Stereotaxis Remote Navigation System exposes patients to up to 60% less damaging X-ray radiation, and patients are ten times less likely to experience major complications such as perforations of the heart.

Robotic ablations are especially helpful for the more than 2.6 million Americans who suffer from atrial fibrillation and are a life-saver for these patients who, if left untreated, are five times more likely to have a stroke.



CardioMEMS – state-of-the-art monitoring of heart failure patients

The CardioMEMS™ HF System uses a miniaturized, wireless monitoring sensor that is implanted in the pulmonary artery during a minimally invasive procedure, to directly measure PA pressure. The system allows patients to transmit PA pressure data from their homes to their health care providers, allowing for personalized and proactive management to reduce the likelihood of hospitalization.

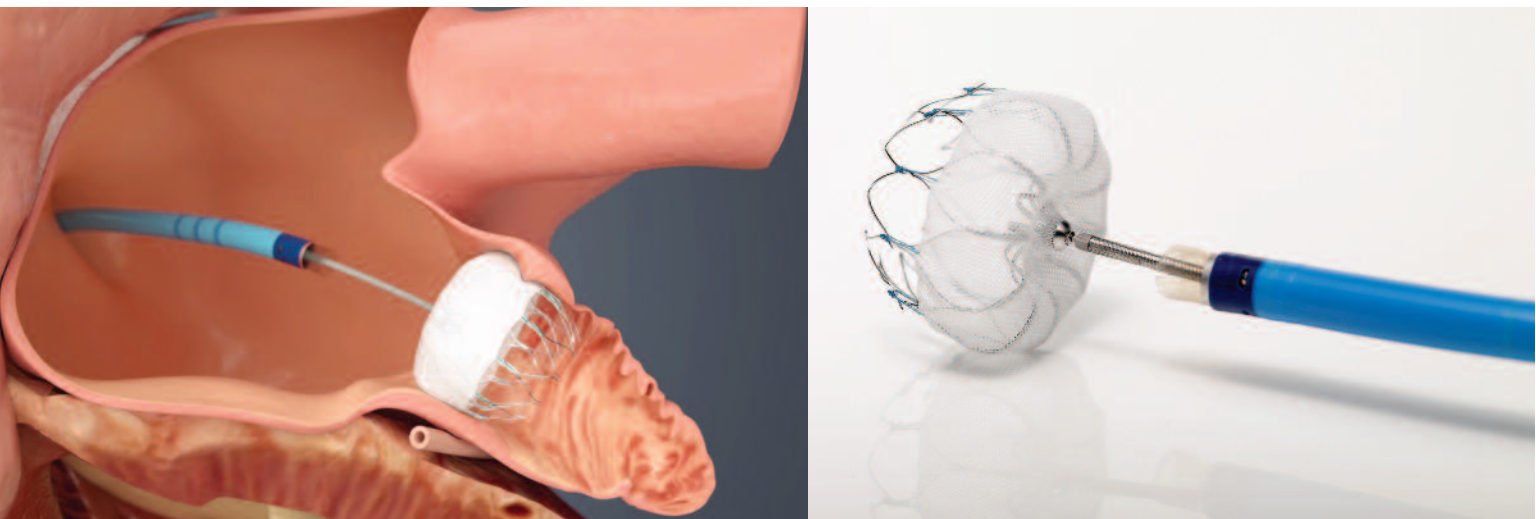
The CardioMEMS HF System is the first and only FDA-approved HF monitoring device that has been proven to significantly reduce hospital admissions and improve quality of life in class III HF patients who have been hospitalized in the previous 12 months. More than 5 million Americans have HF, with 670,000 new cases diagnosed each year. Roughly 1.4 million patients in the U.S. have class III HF, and historically these patients account for nearly half of all HF hospitalizations.

Watchman

Patients with non-valvular atrial fibrillation (AF) now have an alternative to long-term warfarin medication therapy.

Deborah was among the first in the region to implant the newly FDA-approved WATCHMAN Left Atrial Appendage Closure (LAAC) Implant. This is a breakthrough for patients with AF who are suitable for warfarin therapy by their physicians, but who have reason to seek a non-drug alternative. The WATCHMAN LAAC Implant is an alternative to reduce the risk of AF-related stroke.

The WATCHMAN Implant closes off the left atrial appendage to keep harmful blood clots in the LAA from entering the bloodstream and potentially causing a stroke. By closing off the LAA, the risk of stroke may be reduced and, over time, patients may be able to stop taking warfarin.



ICD Lead Extraction

Implantable cardioverter defibrillators (ICDs) have been in use since the 1980s. Since the technology's introduction, ICDs have saved and prolonged thousands of lives. A side consequence, however, is that over time the leads can become infected or ineffective and need to be extracted and replaced. Deborah stands as a regional leader in this advanced procedure.

Deborah's extraction techniques adhere to the Heart Rhythm Society's recommendations. In addition, the hospital uses Cook Medical's lead extraction tools, backed by 25 years of extraction experience. The extraction system relies primarily on a locking stylet and the concept of countertraction, as well as a telescoping sheath — a vast improvement from the early days of lead extraction when physicians tried various methods of pulling leads out using a weighted pulley system, or resorting to open heart surgery.

Vascular Surgery Outcomes

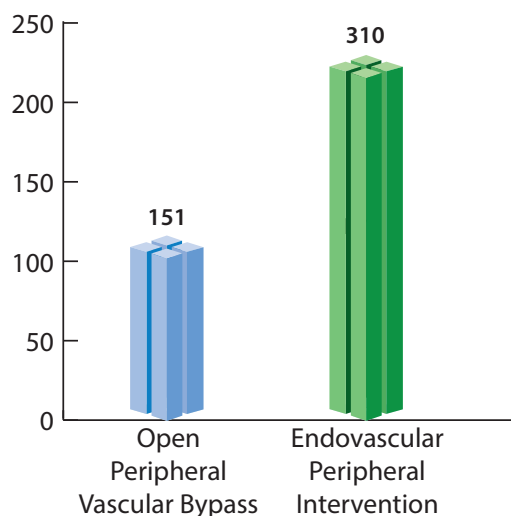
Deborah's Vascular Surgery Program includes four vascular surgeons who provide a comprehensive range of procedures. These include the full range of traditional open and endovascular surgical procedures, including carotid endarterectomy and stenting, and stent graft repair of aortic aneurysms.

We also treat venous disease with both open and endovascular techniques; provide dialysis access surgery; lower extremity revascularization; and distal bypass surgery of lower extremities. The surgeons have outstanding expertise in open and endovascular limb salvage procedures.

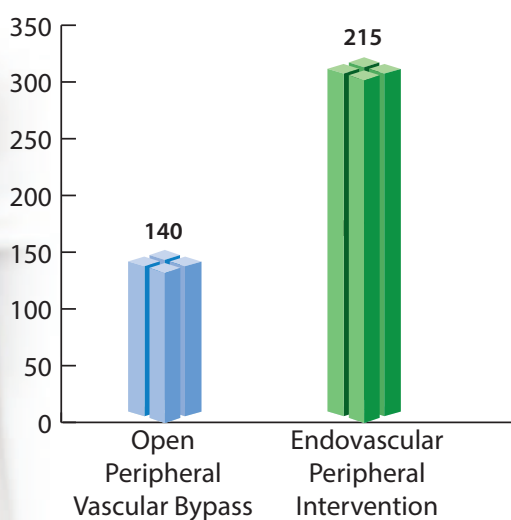
We have access to high-level imaging for following aneurysmal disease and provide management of general surgery needs, including abdominal issues, airway and venous access.

Total Cases for 2013 were 771.
In 2014 this increased to 875.

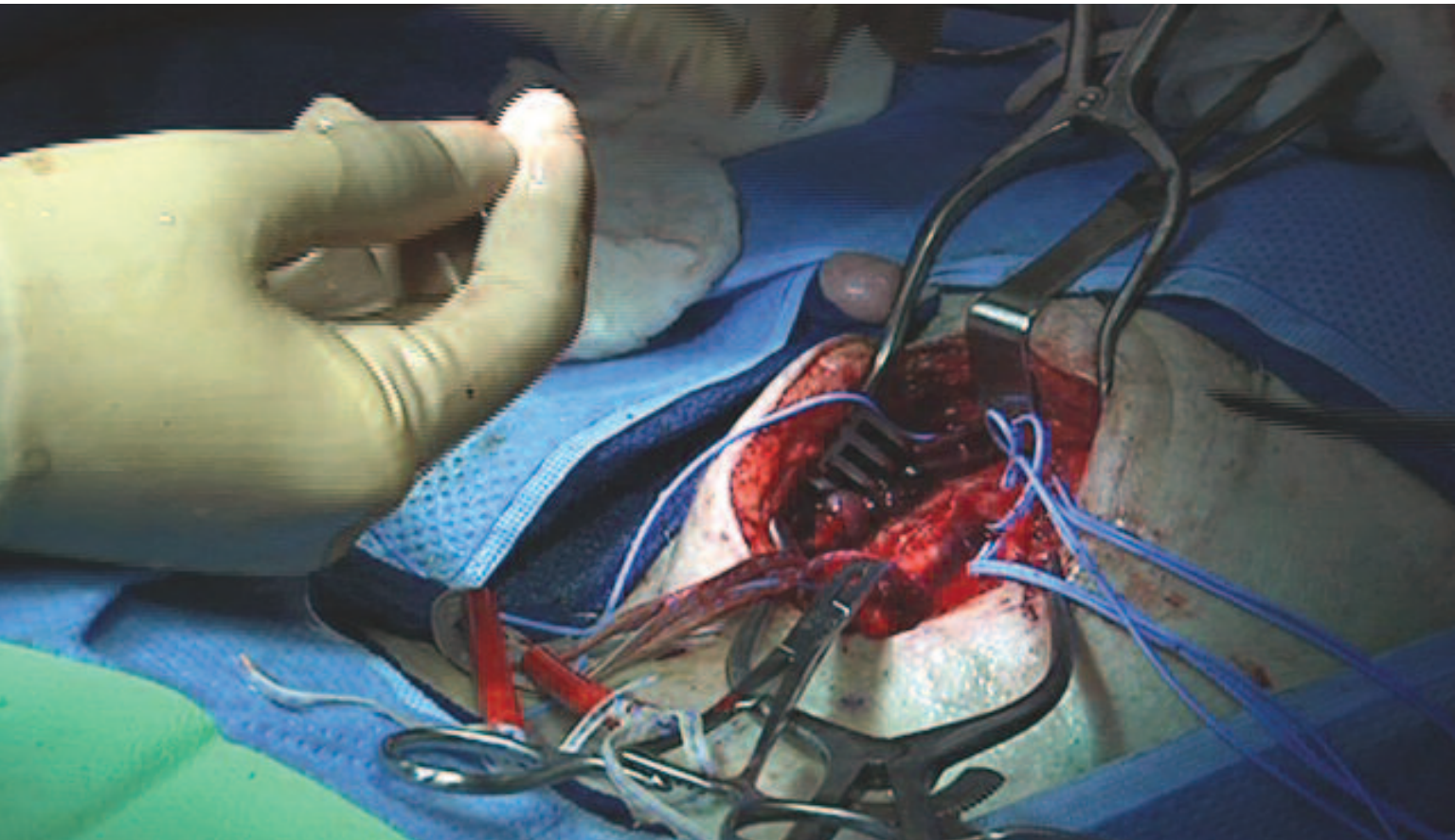
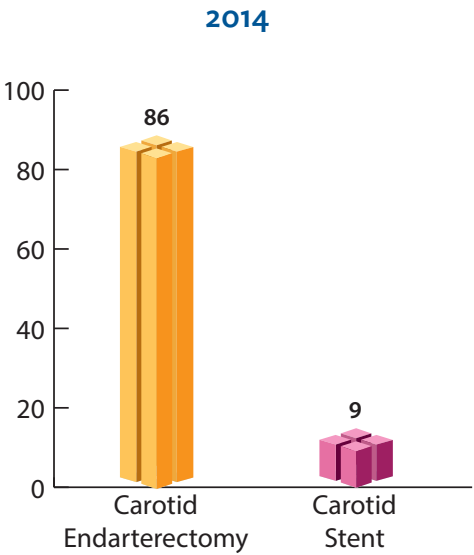
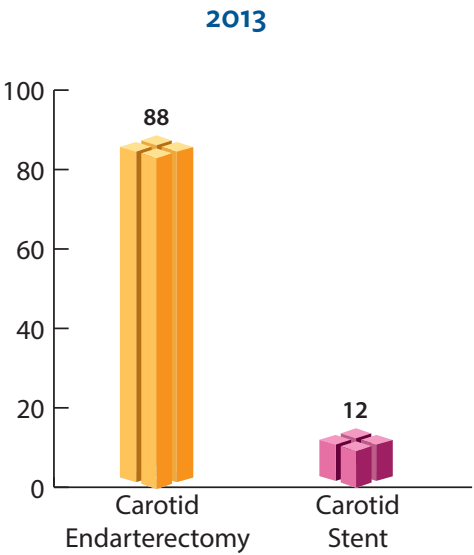
2013



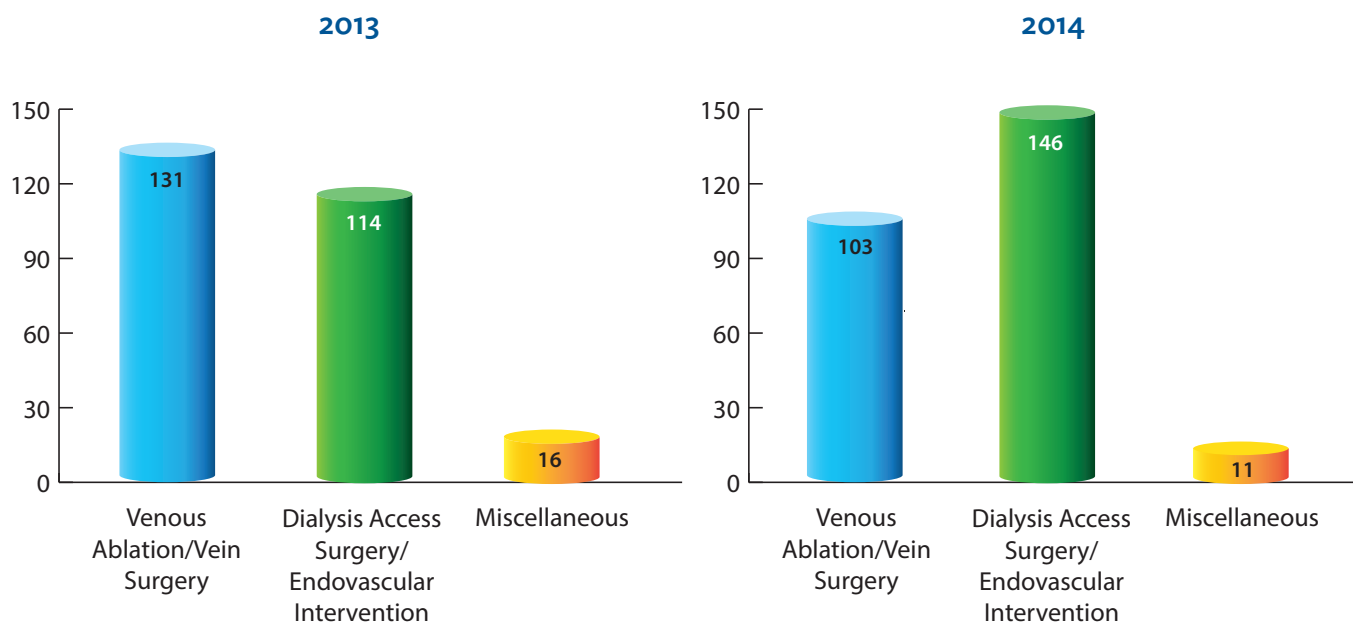
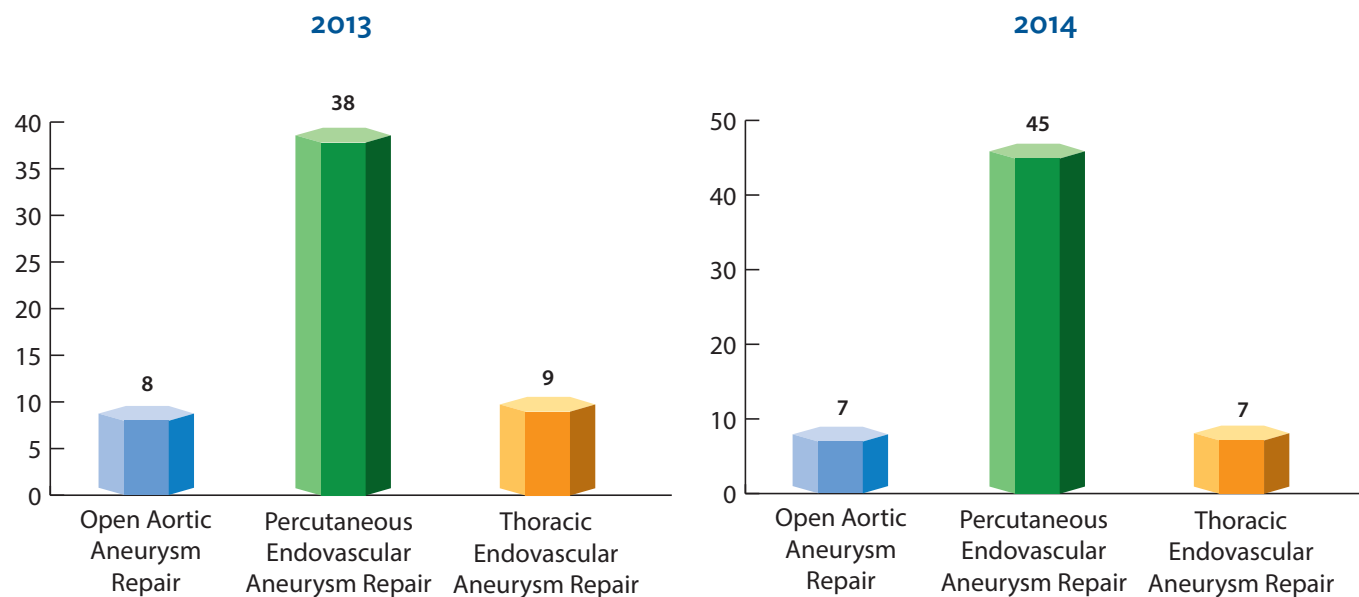
2014



Kane L. Chang, MD
Director, Vascular and
Endovascular Surgery



Vascular Outcomes (continued)

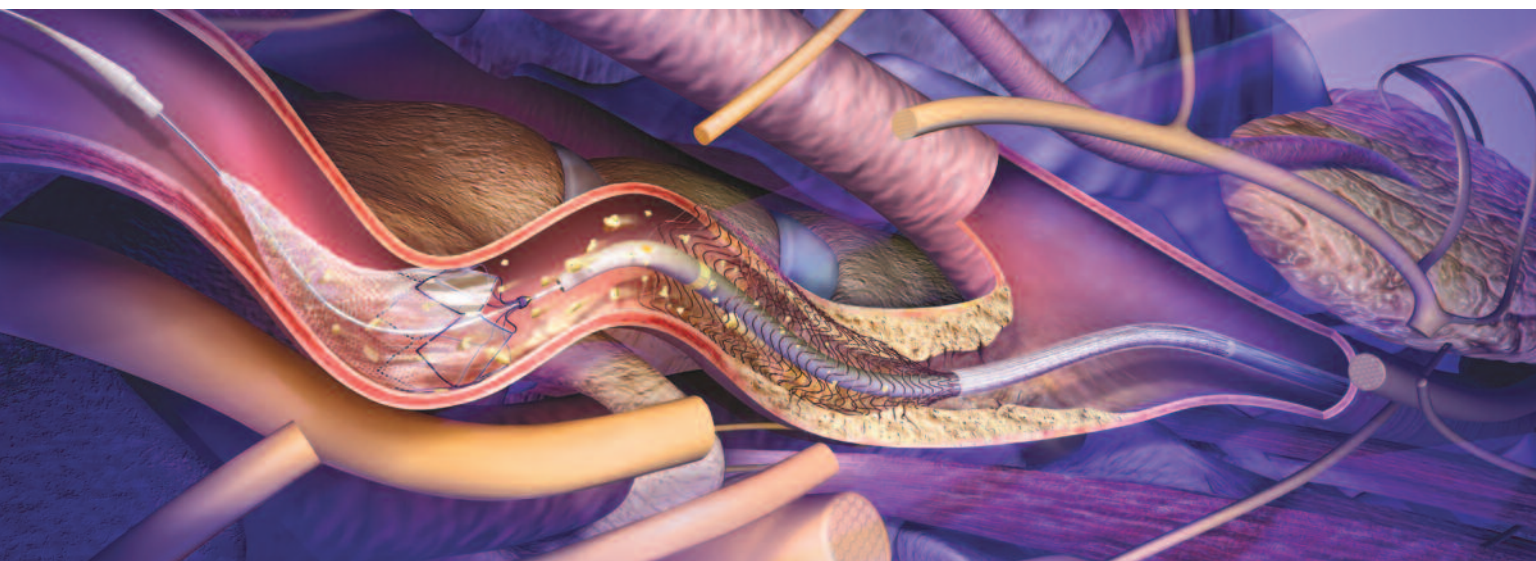


Abdominal Aortic Aneurysms

More than one million people are living with undiagnosed Abdominal Aortic Aneurysms (AAA). An estimated 95% of all AAAs can be successfully treated if detected prior to rupture, but if undetected until rupture, only 10-25% of patients survive.

Deborah is expert in diagnosing and treating AAAs, a weakening and bulging of the aorta. Despite the fact that this condition is the third leading cause of sudden death in men over 60 years of age, when detected, Deborah's surgical/interventional team has a very successful track record over the years in repairing AAAs.

Early detection is key for successful repair. Men with a history of smoking, high blood pressure, high cholesterol, family history of the disease, and those who have undergone bypass surgery are recommended for an ultrasound. If an aneurysm is detected, the skilled surgical/interventional team at Deborah can offer a life-saving repair.



The Vein Center

Deborah's Vein Center looks below the surface of unsightly spider and varicose veins, to determine whether these unattractive – and easily removed – veins are a sign of a deeper circulation problem or more severe condition.

Deborah's highly qualified staff is able to appropriately diagnose and treat these vein conditions. If the veins are superficial, recommendations including the use of compression stockings and elevating legs while sitting, can offer conservative management. If they need treatment, Deborah's Vein Center specialists have a range of tools in their arsenal, including: radiofrequency ablation, the Venefit Closure, sclerotherapy, and phlebectomy, among other treatments.

If, however, the veins are the sign of a more serious condition such as deep vein thrombosis (DVT), Deborah's team is highly skilled in appropriate surgical options.

Heart Failure Experts

More than two-thirds of heart failure patients are under the care of a primary care physician. Assessing a patient's level of heart failure via the American Heart Association and American College of Cardiology (AHA/ACC)s' levels of heart failure– Stages A-D – offers excellent guidelines for when to bring Deborah's specialty expertise into play.

In Stage A, patients are symptomless, but at risk. Here a primary care physician can have tremendous impact on a patient with lifestyle modifications such as quitting smoking and exercising. Medications are helpful at this point if a patient has hypertension or other early signs of heart disease.

In Stage B, when an initial diagnosis of heart failure is determined by a reduced ejection fraction, a cardiology consult is warranted. Deborah's Electromechanical Therapy Institute can evaluate early procedural interventions with the goal of preventing future heart damage.

As heart failure progresses through Stage C and into Stage D – advanced heart failure – patients should be fully transitioned into a specialty program such as Deborah's for consistent monitoring, aggressive medication, and state-of-the-art treatment opportunities.



The Women's Heart Center

Deborah's Women's Heart Center is focused on closing the healthcare gap for women who too often miss the early warning signs of heart disease, the number one killer among American women.

The Women's Heart Center team blends multi-disciplinary expertise in the areas of cardiology, endocrinology, pulmonology, imaging, congestive heart failure and diabetes. The program also has



extended Deborah resources from its Institute for Sleep Medicine; the Joslin Diabetes Center Affiliate at Deborah; and on-site, highly-skilled nutritionists. Deborah's female physician specialists offer dedicated women's clinic time to focus on their patients and build an overall health profile. With this "big picture" in mind, Deborah's specialists can then recommend a pro-active plan for reducing stress, losing weight, quitting smoking, eating better, sleeping more soundly, managing diabetes, and teaching about the early signs and symptoms of heart disease.

Clinical Research

Deborah's innovative Clinical Research Department is currently involved in over 30 innovative trials exploring new treatments and procedures in Electrophysiology, Interventional Cardiology, Peripheral Vascular Disease, and Preventive Cardiology. In addition to highly committed and talented Principal Investigators, the Clinical Research Team at Deborah provides superior patient support through its research associates, who keep both referring physicians and patients apprised of not only their progress, but that of the clinical research study, at each step of the way.



Parachute® Ventricular Partitioning Device



Patients at Deborah now have access to a new clinical research device which offers hope to those suffering from heart failure caused by damage to and weakening of the heart muscle following a heart attack.

Deborah is the first investigational site in New Jersey, New York, and Eastern Pennsylvania to implant the Parachute Ventricular Partitioning Device, which is a minimally-invasive approach to this life-threatening condition.

Through a catheter inserted in the femoral artery, the Parachute implant is deployed in the left ventricle to partition the damaged muscle, excluding the non-functional heart segment from the healthy, functional segment to decrease the overall volume of the left ventricle and restore its geometry and functionality.

The James Klinghoffer Center for Wound Healing and Hyperbaric Treatment

For the estimated five million Americans suffering with chronic non-healing wounds, technology holds a remarkable promise. At The James Klinghoffer Center for Wound Healing and Hyperbaric Treatment, Deborah is able to provide sophisticated wound care technology and hyperbaric oxygen therapy to enhance healing through a multidisciplinary team approach directed by John Cooper, DO, FACOS, Vascular Surgeon.

Treatment applies proven wound care practices and advanced clinical approaches to heal patients suffering from chronic ulcers and wounds. Deborah's expansive program provides state-of-the-art integrated care for slow-healing wounds.

In the first year, the Center saw over 2,279 patients, performing 868 Hyperbaric Treatments.



John H. Cooper, DO, FACOS
Attending Vascular and Endovascular Surgeon
Director, The James Klinghoffer Center for
Wound Healing and Hyperbaric Treatment



SURGERY



Paul Gerard Burns, MD

Chair, Department of Surgery

**Services provided under contract
by Mid-Atlantic Surgical Associates*

Dr. Burns is board certified in surgery and thoracic surgery. He has practiced cardiac surgery in NJ for over fourteen years with exceptional outcomes. Since

beginning his general surgical residency at Harvard Medical School Deaconess Hospital over 25 years ago, his personal achievements include several distinguished awards, also named a “Top Doctor” numerous times by state and national magazines, including *U.S. News & World Report* for the years 2011-2014. He is widely published in well-known medical and scientific journals, and has a special interest in minimally invasive cardiothoracic surgery.



Ronald E. Ross, MD

Attending Cardiothoracic Surgeon

**Services provided under contract
by Mid-Atlantic Surgical Associates*

Dr. Ross is board certified in general surgery and thoracic surgery. He joined Deborah after completing his cardiothoracic

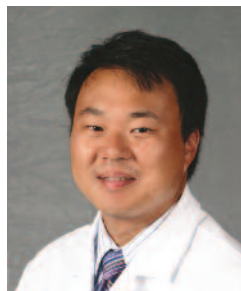
surgery fellowship at Strong Memorial Hospital in Rochester, NY, which is ranked by *U.S. News & World Report* in the highest category for cardiology and heart surgery volume, advanced technologies and patient services. Dr. Ross has written extensively for peer-reviewed publications, such as the *American Journal of Surgery*, among others. His interests include all aspects of adult cardiac surgery.



Walter Boris, DO, FACOS

Attending Thoracic Surgeon
Attending Thoracic Surgeon,
Robert Wood Johnson University
Hospital Hamilton
Clinical Assistant Professor,
Philadelphia College of
Osteopathic Medicine

Dr. Boris joined Deborah’s surgical staff following a distinguished military medical career as an officer in the United States Army. Double board certified in both general surgery and thoracic cardiovascular surgery, Dr. Boris completed his training in general surgery at Community General Hospital in Harrisburg, Pennsylvania, and his specialized training in thoracic cardiovascular surgery was completed at Deborah Heart and Lung Center. Clinical assistant professor at Philadelphia College of Osteopathic Medicine, Dr. Boris additionally serves as adjunct thoracic surgeon at Robert Wood Johnson University Hospital Hamilton. Published in eminent medical journals and associations, Dr. Boris is also on the Board of Directors, Cardiothoracic Section Chair, of the American Osteopathic Board of Surgery, also serving as a Board Examiner. Dr. Boris’ special interests include cardiac surgery, thoracic surgery, vascular surgery and surgical critical care.



Kane L. Chang, MD

Director, Vascular and
Endovascular Surgery

Dr. Chang joined Deborah in 2006 and helped propel the expansion of the hospital’s vascular surgery department into one of the leading vascular surgery departments in New Jersey. He is double board certified by the American College of Surgeons in general and vascular surgery, with a special interest in vascular and endovascular surgery. Dr. Chang has presented at various professional gatherings, such as the New York Vascular Society Meeting and the Eastern Vascular Society, and has conducted scientific research. Dr. Chang received his medical degree from New York University School of Medicine and has been recognized as a “Top Doc” by *SJ Magazine* and “Rising Star Top Doc” by *Philadelphia Magazine*. Notably, Dr. Chang is on the cutting edge of

the latest minimally invasive surgical techniques for treating patients with vascular diseases, particularly endovascular treatment for abdominal and thoracic aortic aneurysms and peripheral arterial diseases.



John H. Cooper, DO, FACOS
Attending Vascular and
Endovascular Surgeon
Director, Vascular Surgery
Fellowship Program
Director, The James Klinghoffer
Center for Wound Healing and
Hyperbaric Treatment

Having graduated from the University of Medicine and Dentistry of New Jersey, School of Osteopathic Medicine, where he also received specialty training in open and endovascular surgery, Dr. Cooper continues as Chief Clinical Faculty Advisor for Clinically Integrated Human Anatomy at this prestigious school. He is double board certified by the American Osteopathic Board of Vascular Surgery and the American Osteopathic Board of General Surgery, and is a member of the International Society of Vascular Surgery, American College of Osteopathic Surgeons, American Osteopathic Board of Surgeons, Osteopathic Political Action Committee and the American Osteopathic Association. He has been recognized by his peers and patients alike as a “Top Doc,” “Top Physician,” Surgery Mentor of the Year, and has received such prominent awards as The Frederick G. Meoli Scientific Paper Award and The Elmer Grimes Memorial Award. Dr. Cooper specializes in endovascular surgery, venous disease, complex lower extremity revascularization, wound care and holds a special interest in endovascular surgery and medical illustration.



Vijay Kamath, MD
Attending Vascular Surgeon

Dr. Kamath completed his vascular surgery training at Jobst Vascular Institute in Toledo, OH and joined Deborah’s vascular surgical team in September 2014. He has a special interest in peripheral vascular disease, venous disease and cerebrovascular disease. Dr. Kamath is a member of several professional societies including the Society of Vascular Surgeons, the American College of Surgeons, the American Venous Forum, Society of Clinical Vascular Surgery, and is a Registered Physician in Vascular Interpretation. He has presented at symposiums and lectures, and is published in various peer-reviewed medical and scientific journals as well as contributed to chapters in medical textbooks.



Matthew S. Samra, DO
Attending Vascular and
Endovascular Surgeon
Director, Vein Center

Dr. Samra joined Deborah in 2004, where he began his sub-specialty training in cardiac and thoracic surgery fellowship, followed by a vascular and endovascular fellowship. He is triple-board certified in general, vascular and cardiothoracic surgery and is a member of the American Osteopathic Association. He is also the Chief of Vascular Surgery at Southern Ocean Medical Center in Manahawkin, NJ and is a clinical instructor for multiple medical schools. He carries expertise in all aspects of vascular and endovascular surgery as well as treatment and repair of thoracic and abdominal aneurysms, arterial blockages, venous disease, treatment of varicose and spider veins, and carotid stenosis. Dr. Samra is involved in multiple trials evaluating the latest vascular and endovascular technologies. He has received multiple “Patient Choice” and “Best Physician” awards over the years including the prestigious Compassionate Doctor Recognition, of which only a small percentage of physicians nationwide are accorded this honor. Dr. Samra’s special interests lie in the areas of endovascular treatments of vascular disease, venous disease, and new technologies and techniques in the areas of vascular and endovascular diseases.

ELECTROPHYSIOLOGY



Raffaele Corbisiero, MD, FACC
Chair, Electrophysiology and Pacing
Director, Electromechanical
Therapy Institute

Dr. Corbisiero began his career with Deborah in 1997 as an Associate in the Department of Electrophysiology, where in 2007

he was appointed Chair of that department as well as Director of our EMTI. He serves as a Clinical Professor at the Philadelphia College of Medicine's Division of Cardiology. Dr. Corbisiero is triple board certified in internal medicine, cardiovascular diseases and clinical cardiac electrophysiology. His memberships include the Heart Failure Society of America; Heart Rhythm Society; American College of Cardiology, of which he is also a Fellow; North American Society of Pacing and Electrophysiology; and he is a committee member of the International Multi-Site Left Ventricular Pacing Committee. Dr. Corbisiero has been invited to lecture at numerous national and international symposiums, and is the primary investigator in several ongoing research projects, as well as various concluded research trials. In addition, he has contributed to and has been extensively published in numerous and diverse peer-reviewed journals and publications. In addition to taking a special interest in device therapy (pacemakers, defibrillators), heart failure therapy, resynchronization therapy and complex ablation, Dr. Corbisiero has been recognized and awarded on many occasions as a "Top Doc," "Best Physician," and "Readers Choice" doctor.



Safi U. Ahmed, MD
Attending Electrophysiologist

Dr. Ahmed is double board certified in internal medicine and cardiovascular disease. Completing his residency in internal medicine at Hahnemann University and Medical College of Pennsylvania Hospitals,

Philadelphia, Dr. Ahmed received specialized training in cardiac electrophysiology at Drexel University at Hahnemann University and Medical College and Abington Memorial Hospitals, Philadelphia. Additional

training in cardiology was also completed at Hahnemann University and Medical College and Abington Memorial Hospitals, Philadelphia, with Dr. Ahmed's nuclear cardiology training completed at University of Connecticut at Hartford Hospital, CT. Dr. Ahmed has lectured at various cardiology symposiums, and his special interest is electrophysiology.



Pedram Kazemian, MD, MSc, FRCPC, FACC, FACP
Attending Cardiac
Electrophysiologist

Dr. Kazemian joined Deborah in 2014, bringing with him his expertise in catheter-based therapies for atrial fibrillation, ventricular tachycardia, and

device-based therapies for heart failure. He is triple board certified in internal medicine, cardiovascular medicine and cardiac electrophysiology, and completed a fellowship in advanced cardiac electrophysiology training at Tufts University, Steward St. Elizabeth's Medical Center in Boston. Dr. Kazemian is a member of the American Board of Internal Medicine and the American Board of Cardiovascular Medicine. He holds a special interest in atrial fibrillation and heart failure, and is widely published in these areas, as well as other cardiovascular-related areas. Additionally, Dr. Kazemian has extensive research-related experience. His electrophysiology experience as first operator numbers in the hundreds in the areas of atrial fibrillation ablation, supraventricular tachycardia, ventricular tachycardia, ICD/pacemaker implantation, lead extraction and BiV pacemaker/CRT-D. He has taught at such prestigious schools as Harvard Medical School and the University of Alberta. He is the recipient of many esteemed awards and has presented both nationally and internationally in his area of expertise.

INTERVENTIONAL



Richard Kovach, MD, FACC
Chair, Interventional Cardiology
Director, Cardiac Catheterization
Laboratory

Dr. Kovach began his esteemed career with Deborah in 1988, left to pursue a career in private practice in 1994 and was welcomed “home” in 2010 as

Chair of Deborah’s Department of Endovascular Medicine, ultimately accepting the positions of Chair of Interventional Cardiology and Director of the Cardiac Catheterization Laboratory. He is a graduate of Thomas Jefferson University, where he went on to serve as Assistant Clinical Professor of Medicine at Thomas Jefferson University Hospital and Assistant Professor of Medicine at Hahnemann University. Dr. Kovach leads a team of highly-skilled Interventional Cardiologists who specialize in cardiac medicine and endovascular procedures, providing a comprehensive multi-disciplinary approach for testing, diagnosing and treating coronary artery disease, peripheral arterial disease, venous disease, and structural heart disease. Board certified in internal medicine, cardiovascular disease and interventional cardiology, he was recently appointed to the editorial board of Vascular Disease Management. Dr. Kovach has a special interest in endovascular medicine, carotid stenting, endovascular aneurysm repair, peripheral vascular intervention, and limb salvage. Personal achievements include serving as principal investigator in a wide array of laboratory research projects pivotal in the future of cardiology diagnosis and treatment. Not only named a “Top Doc” by *SJ Magazine*, Dr. Kovach is a member of many professional organizations, has been extensively published in various medical and scientific journals and he has presented at numerous professional organizations and conferences.



Harit Desai, DO
Attending Interventional
Cardiologist

Dr. Desai joined Deborah’s interventional staff after completing specialized training in cardiovascular disease at Deborah Heart and Lung Center. Board certified in internal

medicine, Dr. Desai completed his training and residency in internal medicine at Mount Clemens Medical Center in Michigan. Published in several peer-reviewed journals, Dr. Desai has a special interest in cardiac interventions.



Kintur A. Sanghvi, MD, FACC, FASCAI
Attending Cardiac
Interventionalist
Director, Transradial Program

Dr. Sanghvi joined Deborah in September 2010 and commenced Deborah’s Transradial Program, which he propelled into a state-

of-the-art radial training program. Board certified in interventional cardiology, cardiovascular disease, nuclear cardiology, and internal medicine, Dr. Sanghvi is a member of the Society of Cardiovascular Angiography and Interventions, the American College of Cardiology, and the American Society of Nuclear Cardiology. Dr. Sanghvi’s special interests lie in sympathetic nervous system modulation/renal denervation for treatment beyond HTN, transradial catheterization, complex coronary and endovascular interventions, CTO revascularization, and structural heart disease. He has been acknowledged for his contributions in the preparation of the “*Patel’s Atlas of Transradial Intervention—The Basics*,” a first-ever published comprehensive atlas on transradial intervention. Dr. Sanghvi is extensively published in medical and scientific journals, and has presented at the Society of Cardiovascular Angiography & Intervention, the Asian Pacific Interventional Cardiology Conference, as well as the Southeast Asian Cardiology Meeting. He has contributed his expertise in several research projects, and was awarded second prize for three consecutive years in a row for his research at the Annual Peter Cyrus-Rizzo Scientific Seminar. Dr. Sanghvi is an Editorial Board Member of the *Journal of Interventional Cardiology*.



**Vincent Varghese, DO, FACC,
FSCAI**

Attending Cardiac
Interventionalist
Director, Interventional
Cardiology Fellowship Program

Dr. Varghese graduated from
Philadelphia College of
Osteopathic Medicine in

Philadelphia and is board certified in internal medicine, cardiovascular disease, interventional cardiology, and nuclear cardiology, and serves on the NJ State Board of Examiners. He was the 2014 recipient of the respected Compassionate Doctor Recognition. Dr. Varghese is broadly published in medical and scientific journals, and has contributed to textbook chapters focusing on interventional cardiology and endovascular medicine.