

In alliance with

۲



Cleveland Clinic

Heart, Vascular and Thoracic Institute

2020

۲

DEBORAH HEART AND LUNG CENTER CARDIOLOGY AND CARDIOVASCULAR SURGERY **OUTCOMES**

DEBORAH HEART AND LUNG CENTER 2019-2020 OUTCOMES REPORT

Measuring and understanding outcomes of medical treatments promotes quality improvement. Created by Deborah Heart and Lung Center and Cleveland Clinic, this outcomes report is designed for the physician audience and contains a summary of surgical and medical treatments, with data on patient volumes and outcomes and a review of new technologies and innovations.

۲

LETTER FROM THE CHAIR OF CLEVELAND CLINIC'S SYDELL AND ARNOLD MILLER FAMILY HEART, VASCULAR & THORACIC INSTITUTE

We are proud to present 2019-2020 outcomes from the cardiology and cardiovascular surgery program at Deborah Heart and Lung Center, which has an ongoing collaborative relationship with Cleveland Clinic's Miller Family Heart, Vascular & Thoracic Institute to promote best practices and optimal quality in cardiovascular caregiving.

This overview of outcomes, volumes, and quality metrics reflects some of the fruits of that collaboration, which involves members of Deborah ranging from physicians and other health care providers to administrative personnel. It refers to national benchmarks established by the American College of Cardiology and The Society of Thoracic Surgeons and stems from our commitment to give every patient the best possible outcome and experience. We believe that transparency around clinical outcomes is essential to improving quality and efficiency as we all continue to move toward ever more value-based care delivery.

Cleveland Clinic's Heart, Vascular & Thoracic Institute is gratified by the success of our collaborations with our affiliate and alliance members like Deborah. Our goal is to develop relationships with providers nationwide to enhance the quality and value of cardiovascular care in our communities. We welcome your comments and feedback, and we thank you for your interest.

Sincerely,

Lars G. Svensson, MD, PhD Chairman, Miller Family Heart, Vascular & Thoracic Institute Cleveland Clinic





LETTER FROM THE PRESIDENT AND CHIEF EXECUTIVE OFFICER

Deborah Heart and Lung Center is proud of its distinguished record of high-quality cardiac, pulmonary, and vascular care. Over the years, these programs have grown exponentially, reflecting advancements in knowledge, technology, and techniques for lifesaving procedures, and have delivered services through a personalized team approach. Deborah's cardiovascular surgical care is nationally recognized as providing some of the best patient outcomes in the country, and provides the greatest rewards of the medical system – patients who are able to live longer, healthier, and happier lives.

We are proud to present this quality outcomes report, produced in conjunction with Cleveland Clinic Heart, Vascular & Thoracic Institute. As an Alliance member, Deborah is part of a prestigious group selected to work with the medical professionals at Cleveland Clinic, ranked as one of the nation's top hospitals by *U.S. News & World Report* (2020-2021). Through this relationship Deborah has been able to validate its high-performing programs. Deborah's selection as an Alliance member is a testament to the hospital's excellent and dedicated clinical and support teams, and allows for the sharing of best practices designed to improve the outcomes, safety, and quality of patient care.

Joseph Chinichella

Joseph Chirichella President and CEO Deborah Heart and Lung Center

۲



About Deborah Heart and Lung Center
Quality Ratings

WHAT'S INSIDE

Isolated Coronary Artery Bypass Graft Outcomes.

Patient Experience: Advanced Heart Failure.....

Interventional Cardiology	۱
---------------------------	---

Electrophysiology	•••
Structural Heart	

Patient Experience: Structural Heart.....

Innovations

Physician Listing.....

Overview of Services

 	 •••	 •••	•••	•••	•	•••	•	•	•••	•	•••	• •	•	•	•	•••	•	 •				Z	ŀ
 	 	 	•••		•			•	•••	•	•••		•	•	•	•••	•		•••			6	5
 	 	 	•••					•	•••					•	•	•••						8	3
 	 	 						•						•	•						.1	10)
 	 	 						•]	12	2
 	 	 																			.1	13	3
 	 	 						•														[/	ŀ
 	 	 																			.1	15)
 	 	 						•													.1	16	5
 	 	 																			.1	18	3
 	 	 	•••					•													2	22	2

ABOUT DEBORAH HEART AND LUNG CENTER

Deborah Heart and Lung Center in Browns Mills, New Jersey, is an 89-bed hospital that specializes in the diagnosis and treatment of heart, lung, and vascular disease in adults and children. Deborah is a recognized leader in patient care and innovative healing, hosting numerous clinical trials and maintaining one of the largest cardiology fellowship programs in the country.

Founded in 1922, Deborah is a nationally recognized specialty hospital treating patients throughout the tri-state region: New York, Pennsylvania, and New Jersey. Deborah's 55-acre campus has a full-service emergency department operated by Capital Healthcare System, Inc., several hotel-style guest residences, and a medical office building with an urgent care, primary and specialty physician offices, and outpatient rehabilitative services.

In 2020,* the providers in Deborah's outpatient clinic recorded over 65,477 visits; during the same time frame, Deborah performed the following:

1,522 surgical procedures

۲

- Open heart 338
- Transcatheter aortic valve replacement 135
- Left ventricular assist device 22
- MitraClip™ 15
- Vascular and endovascular 717
- Other surgeries 295
- 2,736 diagnostic and interventional procedures
- 762 electrophysiology procedures

Deborah's teaching program and robust clinical research department showcase the energy of the brightest new talent and the promise of cutting-edge trials, making Deborah the site of many medical firsts.

*Lower volume may be a reflection of the New Jersey governor's executive orders limiting voluntary surgeries during the early stages of COVID-19.

4 | 2019-2020 Outcomes



Quality Ratings

The Society of Thoracic Surgeons (STS) rating system – rating the benchmarked outcomes of cardiothoracic surgery programs across the United States and Canada – is one of the most sophisticated and highly regarded overall measures of quality in health care. The star rating is calculated using a combination of quality measures for specific procedures performed by an STS Adult Cardiac Surgery Database participant.

CABG

۲

Participant Score (98% CI)	STS Mean Participant Score	Participa Rating	ant (
98.0% (96.9, 98.7)	96.9%	**	\star	
Distribution of Participant So	ores	[Deborah 98	-1
I	I			
Min	10th	50th	90th	Max
91	95.3	97.0	98.1	99.1

Blue bracket = 98% Confidence Interval (CI)

Isolated CABG Surgery

Deborah has earned a distinguished three-star STS rating for its patient care and outcomes in isolated coronary artery bypass grafting (CABG) procedures. The three-star rating, which denotes the highest category of quality, places Deborah among the elite for heart bypass surgery in the United States and Canada.

Historically, approximately 6%-10% of participants receive the three-star rating for isolated CABG surgery. The latest analysis of data for CABG surgery covers a one-year period, from January 2019 through December 2019.

AVR

۲

Participant Score (98% CI)	STS Mean Partic Score
97.4% (96.2, 98.7)	96.0%
Distribution of Participant So = STS Mean	cores
	I
Min	10th
88.0	94.0
Blue bracket = 98% Confidence Inter	rval (CI)

AVR+CABG

Participant Score	STS Mean Partic
(98% CI)	Score
95.5% (93.8, 96.9)	92.4%

Distribution of Participant Scores = STS Mean

	I
Min	10th
'9.6	88.9

Blue bracket = 98% Confidence Interval (CI)

The Society of Thoracic Surgeons. (2019, October). Press release templates for announcing three-star ratings [Press release]. Retrieved from https://www.sts.org/media/sts-public-reporting-toolkit/press-release-templates-announcing-three-star-ratings



Isolated AVR Surgery

Deborah has earned a distinguished STS three-star rating for its patient care and outcomes in isolated aortic valve replacement (AVR) surgery. The three-star rating, which denotes the highest category of quality, places Deborah among the elite for AVR surgery in the United States and Canada.

Historically, approximately 4%-8% of participants receive the three-star rating for isolated AVR surgery. The latest analysis of data for AVR surgery covers a threeyear period, from January 2017 through December 2019.

 (\bullet)





AVR+CABG Surgery

Deborah has earned a distinguished STS three-star rating for its patient care and outcomes in AVR combined with coronary artery bypass grafting (CABG). The three-star rating, which denotes the highest category of quality, places Deborah among the elite for AVR+CABG surgery in the United States and Canada.

Historically, approximately 4%-7% of participants receive the three-star rating for AVR+CABG surgery. The latest analysis of data for AVR+CABG surgery covers a threeyear period, from January 2017 through December 2019.

ISOLATED CORONARY ARTERY BYPASS GRAFT OUTCOMES

Internal Mammary Artery Use

Arterial grafts are known for their excellent longterm patency and are the conduits of choice for coronary revascularization. In 2019, 100% of patients undergoing primary isolated revascularization procedures received at least one arterial graft.



Risk-Adjusted Operative Mortality







Perioperative Medications



8 | 2019-2020 Outcomes

۲

PATIENT EXPERIENCE: ADVANCED HEART FAILURE

From the inception of Deborah's left ventricular assist device (LVAD) implantation program, the hospital has surged to become the highest-volume implant center in New Jersey. This rapid growth is fueled by the program's sterling reputation, which boasts high survival and low bleed and complication rates. Outcomes are a result of an outstanding patient care model, which includes an integrated team approach, intensive patient training, and regular ongoing support from highly trained nurses who assist the patient at every step of the process, ensuring long-term patient success with the device's implantation.

Patient Experience

۲

Five years ago Richard Young had a heart attack. This was followed by the implantation of a pacemaker, but soon after he began a downward slide into heart failure.

"By the time my birthday came around this past June, I was in pretty bad shape," said the 65-year-old limo driver from Trenton. "I was very low. Tired. I couldn't move around much. I couldn't walk more than a few steps," he explained.

"My doctor gave me an echo, and because of my low heart rate, he sent me to Deborah."

Kulpreet Barn, MD – cardiologist, heart failure specialist, and Medical Director, Advanced Heart Failure at Deborah Heart and Lung Center – quickly determined that Richard was in serious heart failure.

Richard said Dr. Barn told him it was time to think of an LVAD, a mechanical pump that would support the pumping of his heart. Richard was initially opposed to the surgery.

Strong family support, especially from his girlfriend, Antoinette, and his daughter Tamika, helped him overcome his feelings and counter his depression over the prospect of the procedure. "I went along with it, and with their support, I felt totally different."



Patient Richard Young (left) and fiancée Antoinette Grimsley

Only a month later, in July, even in the midst of the pandemic, he had the LVAD surgery.

"I was at Deborah for four days, then in rehab for two weeks," he recalled. Once he returned home, Richard quickly acclimated to the care and maintenance of his device, charging his batteries, hooking up when he goes to bed, and caring for the device accessories.

He is now used to the mechanical pump inside his chest and its external battery pack. "It's a little heavy," he noted. Richard is driving again and building up his strength with cardiac rehab.

The avid sports fan has even made plans for the future. "I got engaged to Antoinette, and we're planning a November 2021 wedding."

"It is great to see someone who could barely take a few steps move forward with his life with renewed energy and make plans for the future," said Dr. Barn. "I wish him and Antoinette many years happily married."



 (\mathbf{r})



Cardiology and Cardiovascular Surgery/Deborah | 11

INTERVENTIONAL CARDIOLOGY

Percutaneous Coronary Intervention



There are nine interventional cardiologists and four catheterization labs.

Arrival-to-Balloon Time \leq 90 Minutes



When a patient experiences a ST-elevation myocardial infarction (STEMI), the best window of time for a successful outcome is less than 90 minutes. Deborah maintained this standard more than 90% of the time, which dramatically improved the outcomes for these patients.

ELECTROPHYSIOLOGY

Left Atrial Appendage Occlusion

	2017	2018
Case Volume	46	42

Source: ACC/National Cardiovascular Data Registry (NCDR®) Left Atrial Appendage Occlusion (LAAO) Registry™ Outcomes Report Q4 2017, 2018, 2019

Patients Evaluated for Bleed Risk Using the HAS-BLED Score



LAAO Complications



۲

Milestone: 200th Device Implantation

In 2020, Deborah reached a significant clinical milestone when it implanted its 200th WATCHMAN[™] device. With this closure, patients with non-valvular atrial fibrillation have an alternative to long-term medication therapy.

۲



Milestones

In 2020, Deborah became the first hospital along the East Coast to perform over 2,000 robotic ablations for treating atrial fibrillation.

4

Proportion of Patients Previously or Currently Prescribed Anticoagulants



STRUCTURAL HEART

The Deborah Structural Heart Program uses a variety of sophisticated procedures for complex heart repairs, including transcatheter aortic valve replacement (TAVR) for minimally invasive heart valve repair. Since the program's inception in 2014, overall patient volume has continued to grow. Even during the pandemic, 2020 saw a 14% increase in cases over 2019. This growth has been coupled with excellent outcomes, which continue to improve when measured against the National Cardiovascular Data Registry. Improvements have occurred with a steady decline in permanent pacemaker or implantable cardioverter defibrillator (ICD) implants post-TAVR; receiving moderate sedation (versus general anesthesia) during the procedure; and a reduction in major bleeding events and strokes. The combination of these enhanced outcomes offers quicker recovery for patients, a reduced length of stay, and less long-term medical management associated with having a permanent implanted device.

Volume	2016	2017	2018	2019
Surgical aortic valve replacement	47	51	52	55
TAVR	71	84	86	115

Source: STS/ACC TVT Outcomes Report Q4 2019

۲

2019 TAVR Outcome Metrics



Deborah Percent US Registry Average

2019 TAVR Adverse Events



Milestone: Structural Heart Disease

Deborah completed its 550th TAVR in 2020, providing a minimally invasive surgical option for patients with structural heart disease.

14 | 2019-2020 Outcomes

PATIENT EXPERIENCE: STRUCTURAL HEART

Sometimes, a personal connection with a caregiver can make a real difference in how a patient feels about a hospital. For 86-year-old Kenneth Thomas of Waretown, New Jersey, that special connection exists with Deborah's Structural Heart Disease Program Coordinator, Jennifer Joiner, MSN, APN.

"I came from a coal mining family," he recalled. "When I started talking to Jen and found out her husband's family was from the same area in Pennsylvania, I felt right at home."

A retired architect, Ken has had a multistep cardiac journey with Deborah.

"I found out I had PAD (peripheral arterial disease, or blockages in the legs) about five years ago. I couldn't walk or anything, but no one could help me, so I went to find myself a new cardiologist."

Conveniently, there was a Deborah Specialty Physicians (DSP) office nearby in Manahawkin, and within a few weeks after his initial evaluation, Ken was at Deborah getting stents placed in his legs. "Finally I had some relief." A subsequent irregular heartbeat necessitated a pacemaker.

"After that I was fine," he said. Then, a year and a half ago, Ken was diagnosed with congestive heart failure.

"Fortunately my cardiologist, Dr. Ghaly [Alan Ghaly, DO], is a wonderful man. He sent me to the hospital, where I met Dr. Kovach [Richard Kovach, MD]. Because of my irregular heartbeat, I needed another procedure. Dr. Kovach told me it was either open heart surgery or a 'clip."

The 'clip' was MitraClip, a device that provides a minimally invasive procedure for mitral valve repair. Implanted through a catheter, the device restores normal blood flow to the heart, without the complications and longer recovery time associated with surgery. "Dr. Kovach was so pleased when I was out of recovery," Ken said.

Ken is no stranger to challenges. Widowed at 44 with three young children, he felt luck was with him when he met Dottie – also a widow – and they have been happily married for 37 years with seven children, 15 grandchildren, and five great-grandchildren between them.

"I have had a long relationship with Deborah," he said, "and everyone has been amazing. I am thankful to everyone at the hospital."

Dr. Kovach echoed these sentiments. "I am so happy that Ken is doing well. Even though he is a 'young' 86-yearold, it was so much safer for him to have the minimally invasive MitraClip procedure. Anytime you can avoid an open heart surgery for higher-risk patients, it is great to have an alternative."



INNOVATIONS

Advanced Heart Failure Center

Deborah's Advanced Heart Failure Center offers treatment options designed to manage heart failure, combining extensive resources, education, specialty training, and

broad professional experience that allows the Deborah team to create an individualized care plan tailored to the unique needs of each patient. Deborah's highly skilled and integrated team of specialists has built a program recognized by the American Heart Association, making Deborah a "Gold Plus" recipient of the Get With the *Guidelines* – Heart Failure Quality Achievement Award.



LVAD – Offering Hope to Advanced Heart Failure Patients

Deborah is now part of an elite group of hospitals in the nation authorized to implant LVADs into patients diagnosed with severe congestive heart failure. Patients can receive an implanted pump as a measure to assist while waiting for a heart transplant (bridge to transplant) or as a permanent, long-term heart failure solution for pumping blood in a heart



۲

with a faulty left ventricle (destination therapy). Deborah's Advanced Heart Failure Center expertly manages patients who need this complex surgery by training them in lifestyle, medication, and device management so they can live full lives with their implanted device. DNV-GL has certified Deborah's program as a "Ventricular Assist Device facility."

TCAR – Minimally Invasive Approach to Carotid Artery Blockage

Deborah's vascular surgery team has significant expertise in transcarotid artery revascularization (TCAR) procedures. This advanced technique is designed for high-risk patients with carotid artery blockage. During TCAR, a tube is inserted in the carotid artery and the blood flow to the brain so that any captured plague is filtered out. A stent is implanted to keep the artery open, and then blood flow is reversed back to the brain again. This minimally invasive

approach reduces the risk of stroke and complications and accelerates recovery. Deborah is one of only a few hospitals in the region to offer this highly specialized procedure.



ECMO – Critical Life Support Therapy While Bridging to **Other Treatment Options**

Extracorporeal membrane oxygenation (ECMO) is an extremely complex life support treatment that provides cardiac and respiratory support to those whose heart and lungs are unable to independently sustain life. Similar to a cardiopulmonary bypass machine, ECMO is designed for a longer period of use. ECMO is often a last option for patients who have serious lung or heart failure and need intense intervention. Deborah remains one of a few centers nationwide with access to this specialized, lifesaving treatment.

MitraClip – Repairing Leaky Mitral Valves in High-Risk Patients

۲

 $(\mathbf{ })$

Deborah's cardiac interventionalists, using the MitraClip device, are now able to repair leaking mitral valves, even in patients considered too high-risk for surgery. This minimally invasive procedure advances the MitraClip device to the heart through a catheter, where the device "clips" together

the mitral valve leaflets to significantly reduce, or even stop, the amount of blood flowing in the wrong direction through the leaking valve. Recovery postprocedure is quick, and patients usually see a nearly immediate reduction in their symptoms.



Teaching the Next Generation of Specialists

Deborah is an Accreditation Council for Graduate Medical Education (ACGME) accredited fellowship training program. sponsored in partnership with Sidney Kimmel Medical College at Thomas Jefferson University.

Fellowship programs include:

- Advanced heart failure
- Electrophysiology
- General cardiology
- Interventional cardiology
- Vascular surgery

Physicians apply each year for a coveted spot in one of Deborah's fellowship programs, where they receive intensive specialty training, working side-by-side with some of the most talented specialists in the country. Fellows at the hospital receive training in advanced cardiovascular techniques and help conduct cutting-edge clinical trials and research.

16 | 2019-2020 Outcomes



Research Results Provide Emergency Lifesaving Protocols

Deborah's clinical research in the National Cardiogenic Shock Initiative Study demonstrated that patients with the heart attack complication of heart failure with cardiogenic shock survived at a significantly higher rate when treated with a specific protocol. This study found that 75% of heart attack patients with cardiogenic shock survived when hospitals employed a protocol that included identification of the condition and then insertion of an FDA-approved device – the Impella[®] heart pump – through a groin-access catheter as soon as possible after the patient arrived at the hospital. This research project is one of more than 30 cutting-edge clinical trials underway.

Zero Fluoroscopy – Enhanced Patient Safety

Deborah is a world leader in the use of fluoroless - or zero fluoroscopy – robotic A-fib ablation. This technique, which requires unique skill and considerable experience, enables ablation without the use of X-ray radiation, instead relying on ultrasound. This complex procedure offers a superior safety benefit to patients through elimination of radiation exposure, as well as a shortened procedure time and faster recovery.

PHYSICIAN LISTING



Betsy Schloo, MD Vice President, Medical Affairs



Paul Burns, MD Chair, Department of Surgery



David Altimore, DO Cardiology

۲



Kane Chang, MD Vascular Surgery



Harit Desai, DO Interventional Cardiology

18 | 2019-2020 Outcomes



Kulpreet Barn, MD

Cardiology/Heart Failure

Ketan Gala, MD Cardiology



Vincent Pompili, MD Chair, Department of Cardiology



Thomas Barnes, MD Vascular Surgery



Raffaele Corbisiero, MD Electrophysiology



Bernard Hynes, MD Electrophysiology



Kintur Sanghvi, MD Medical Director, Cleveland Clinic Alliance



Renee Bullock-Palmer, MD Cardiology





Daniel Ice, MD Interventional Cardiology



Mohammad Javed, DO



Courtney Krathen, DO Interventional Cardiology



Ronald Ross, MD Cardiothoracic Surgery



Aaron Van Hise, DO Interventional Cardiology



Vijay Kamath, MD Vascular Surgery



Allen Mogtader, MD Cardiology





Vincent Varghese, DO Interventional Cardiology













۲









۲











Pedram Kazemian, MD Electrophysiology



Mark Moshiyakhov, MD Cardiology



Sena Sumathisena, MD Cardiology



۲

Richard Kovach, MD Interventional Cardiology



Jatinchandra Patel, DO Interventional Cardiology



Stephen Justin Szawlewicz, MD Cardiology



Cardiology

PHYSICIAN LISTING



Rania Aboujaoude, MD Infectious Diseases



Michael Bilof, MD Bariatric Surgery

۲



Shuping Ge, MD Pediatric Cardiology



Nandini Madan, MD Pediatric Cardiology

20 | 2019-2020 Outcomes



Boban Abraham, MD Pediatric Cardiology



Michael Cane, MD Critical Care Medicine



Robert Keddis, MD Anesthesiology



David Maletzky, DO Hospital Medicine



Waqas Anjum, MD Anesthesiology



Marcella Frank, DO Pulmonary Medicine



Zeeshan Khan, DO Pulmonary Medicine



Andrew Martin, MD Pulmonary Medicine



lgor Balatsky, MD Hospital Medicine



Cara Garofalo, MD Pediatric Cardiology



Marina Liem, MD Radiology



Muhammad Muntazar, MD Anesthesiology



1ª

Michael Neary, MD Critical Care Medicine



Guzal Seyal, DO Hospital Medicine





Whitney Sharp, DO Hospital Medicine



۲







William Qiu, MD Radiology



Howard Waksman, MD Pulmonary Medicine



۲

Achillina Rianto, MD Anesthesiology



Basil Yurcisin, MD Bariatric Surgery

OVERVIEW OF SERVICES

AMBULATORY CARE SERVICES

- Evaluation and follow-up for all services and programs
- Outpatient appointments and second opinions
- Same-day procedures and surgeries

BARIATRIC SURGERY

- Duodenal switch
- Gastric bypass surgery
- Gastric sleeve surgery
- Revision surgery

CARDIOLOGY

۲

- Adult congenital heart disease evaluation
- Cardiac catheterization
- CT imaging technologies
- Echocardiogram
- Nuclear stress testing
- Treadmill stress testing
- Women's Heart Center

CARDIOTHORACIC SURGERY

- Adult congenital heart surgery
- Aortic repair (great vessel) aneurysm/dissection
- Biventricular assist devices
- Combined valvular and coronary procedures
- Coronary artery bypass grafting (CABG)
- Endoscopic vein harvesting
- Left ventricular assist device (LVAD)
- 22 | 2019-2020 Outcomes

- Myomectomy procedures
- Off-pump coronary artery bypass graft surgery (OPCAB)
- Percutaneous cardiac assist devices
- Pericardial procedures
- Radial artery harvesting
- Tissue and mechanical valve implants
- Total arterial revascularization
- Transcatheter aortic valve replacement (TAVR)
- Transmyocardial revascularization (TMR)
- Valve repair, replacements, and reconstruction

CONGESTIVE HEART FAILURE (CHF)

- CardioMEMS[™] implant for heart failure monitoring
- Heart failure and LVAD implant management
- Transplant cardiology, management of advanced heart failure

ELECTROPHYSIOLOGY

- Arrhythmia evaluation (all forms)
- Cardioversion
- Complex arrhythmia ablations
- · Congestive heart failure evaluation and device treatment
- Defibrillator lead extractions
- Implantable cardioverter-defibrillators (ICDs)
- Pacemakers (including leadless pacemakers)
- Radiofrequency ablation for a-fib using stereotaxis remote navigation

INTERVENTIONAL CARDIOLOGY

- Alternative access (including popliteal peda complex anatomy)
- Angioplasty

۲

- Atrial septal defects (ASDs) closure
- BioMimics stents
- CardioMEMS implant for heart failure moni
- Carotid procedures
- Chronic total occlusions (CTO) and complex interventions
- Congenital procedures percutaneous struinterventions
- Deep vein thrombosis
- Drug-eluting stents
- Impella left ventricular assist device
- Intravascular ultrasound (Optical Coherence and fractional flow reserve (FFR)
- Limb salvage procedures for critical limb is
- Mitral valve repair (MitraClip)
- Paravalvular leak closure
- Patent ductus arteriosus (PDA) closure
- Patent foramen ovale (PFO) closure
- Percutaneous endovascular abdominal aort repair (PEVAR)
- Pulmonary emboli
- Structural heart disease procedures
- Transcatheter aortic valve replacement (TA)
- Transradial catheterization and intervention
- Valvuloplasty
- Varicose veins evaluation

al access for	Ventricular septal defect (VSD) closure
	• WATCHMAN
	PEDIATRIC CARDIOLOGY
	Adult congenital heart disease evaluation
itoring	Pediatric arrhythmia management
	Pediatric echocardiography
x coronary	Perinatal cardiology
ctural	
	PULMONARY MEDICINE
	Bronchial thermoplasty (BT) for severe asthma
	 Chronic obstructive pulmonary disease (COPD) management
e Tomography)	Endobronchial ultrasound-guided biopsy (EBUS)
chemia	 Multidisciplinary Oncology Clinic – lung nodule and lung mass evaluations
	Occupational lung disease
	Pulmonary disability evaluation
	Pulmonary exercise studies
	Respiratory/breathing evaluation
tic aneurysm	Smoking cessation
	REHABILITATION SERVICES
VP)	Balance therapy
N I V J	Cardiac rehabilitation
13	Occupational therapy
	Physical therapy
	Pulmonary rehabilitation

Vanaus disease evaluation

Æ

OVERVIEW OF SERVICES

RESEARCH/CLINICAL TRIALS

• More than 30 innovative clinical trials in progress

SLEEP MEDICINE

- Diagnosis and treatment of sleep disorders
- Insomnia primary and secondary
- Narcolepsy
- Sleep apnea syndrome
- Sleep deprivation syndromes
- Sleep movement disorders

THORACIC (LUNG) SURGERY

- Chest wall procedures
- Esophageal procedures
- Lung volume reduction surgery
- Mediastinal procedures
- Pleural procedures
- Pulmonary resections (wedge, lobectomy, pneumonectomy, segmentectomy)
- Tracheal procedures
- Video-assisted thoracoscopic lung surgery (VATS)

VASCULAR SURGERY

- Aortic aneurysm (AA) surgical repair
- Carotid endarterectomy
- Carotid stenting
- Dialysis access creation and endovascular maintenance

- Distal bypass surgery of lower extremities
- Endovascular abdominal aortic aneurysm repair (EVAR)
- Endovascular stent graft repair of thoracic aortic aneurysm (TAA)
- Endovascular stenting for peripheral arterial disease
- Limb salvage bypass surgery and endovascular therapy
- Stent/graft repair of abdominal aortic aneurysm (AAA)
- Surgical revascularization and bypass surgery for peripheral arterial disease
- Treatments for chronic venous insufficiency, varicose veins, deep vein thrombosis

WOUND HEALING AND HYPERBARIC TREATMENT

- Arterial and venous pumps
- Bioengineered skin substitutes
- Compression wraps
- Growth factors
- Hyperbaric oxygen therapy (HBO)
- Negative pressure wound therapy
- Ultrasonic debridement
- Wound matrix and collagen dressings

Cardiology and Cardiovascular Surgery/Deborah | 25



۲

In alliance with

۲

۲



Deborah Heart and Lung Center

۲

200 Trenton Road Browns Mills, NJ 08015 (800) 214-3452 (Physician Referral) DemandDeborah.org

© Copyright 2021 Deborah Heart and Lung Center. All rights reserved.