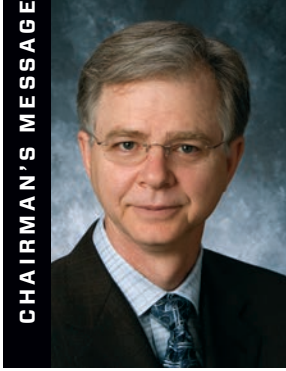


IN REVIEW

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R. DANIEL BEAUCHAMP

M.D., F.A.C.S.

John Clinton Foshee

Distinguished Professor of Surgery

Chair, Section of Surgical Sciences

Surgeon-in-Chief,

Vanderbilt University Hospital

Deputy Director,

Vanderbilt-Ingram Cancer Center

We certainly live in interesting times. After experiencing unprecedented growth, followed by a global economic crisis, I am pleased to report that **Vanderbilt University Medical Center and the Section of Surgical Sciences** remains at the forefront of medical discovery, technological advances in surgery and an unwavering commitment to the very best in patient care.

Reflecting this vision, *U.S. News & World Report* once again recognized Vanderbilt, ranking it 14th among America's Best Hospitals and 15th among America's Best Medical Schools. The Monroe Carell Jr. Children's Hospital at Vanderbilt ranked among the top 30 in the nation. And our Cardiac Surgery outcomes were just ranked third in the nation.

To better meet the needs of our patients who come to us from Nashville, Middle Tennessee and the entire mid-South region, we continue to expand our programs and facilities. A state-of-the-art Critical Care Tower was completed in 2009 and includes 12 new, multi-functional operating rooms designed to maximize teamwork and standardization of care. This facility, along with the existing 19 ORs, will enable us to perform more than 30,000 adult surgical operations each year.

We also provide an array of unique surgical services for the entire southeastern United States, including trauma and burn care; pediatric surgical services; multidisciplinary cancer care and clinical trials, heart, lung, liver, kidney and pancreas transplantation; functional neurosurgery, endovascular surgical interventions; advanced minimally invasive and robotic surgical procedures and hybrid cardiac surgery/interventional cardiology procedures. As such, Vanderbilt University Medical Center provides both the depth of knowledge and range of services that are critical to the population of the mid-South.

Research is an integral part of what we do in our efforts to improve patient care. Our research efforts span from the basic sciences and identifying mechanisms of diseases such as the development and spread of cancers, to clinical trials, to identifying safer systems of surgical care, and to improving educational systems for students, residents and faculty. Despite a challenging economic environment, the Vanderbilt School of Medicine remains in the top 10 for critical NIH funding.

As the safety net hospital for central Tennessee, providing these essential medical services does present financial challenges for our physicians and the hospital. Therefore, we increasingly rely on philanthropic support through the generosity of our patients and their families, alumni and other friends who recognize the power of good health to build a stronger society. A critical need exists for outright and endowed funding to support the work of our clinicians who give patients hope; our educators who train tomorrow's physicians; and our researchers who seek to improve healthcare.

We thank each of you who support our programs in research, education and patient care. We hope to repay that generosity in the coming years by increasing the impact of Vanderbilt University Medical Center on the quality of healthcare in this region and in our nation.

While modern medicine had its humble beginnings more than a century ago, we may look back to the last few years as the time of greatest medical advancement in patient care. Whether providing first-of-its-kind surgical innovations and treatments, or a comprehensive approach to physical and emotional recovery that includes the patient's family, Vanderbilt is steadfastly paving the way for a new standard in patient care.

PATIENT CARE: WHY WE'RE HERE

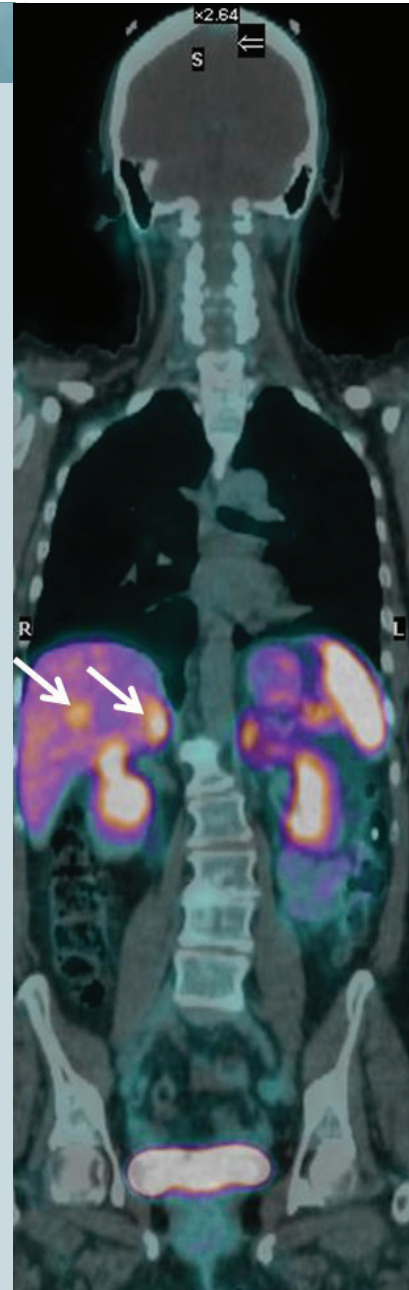


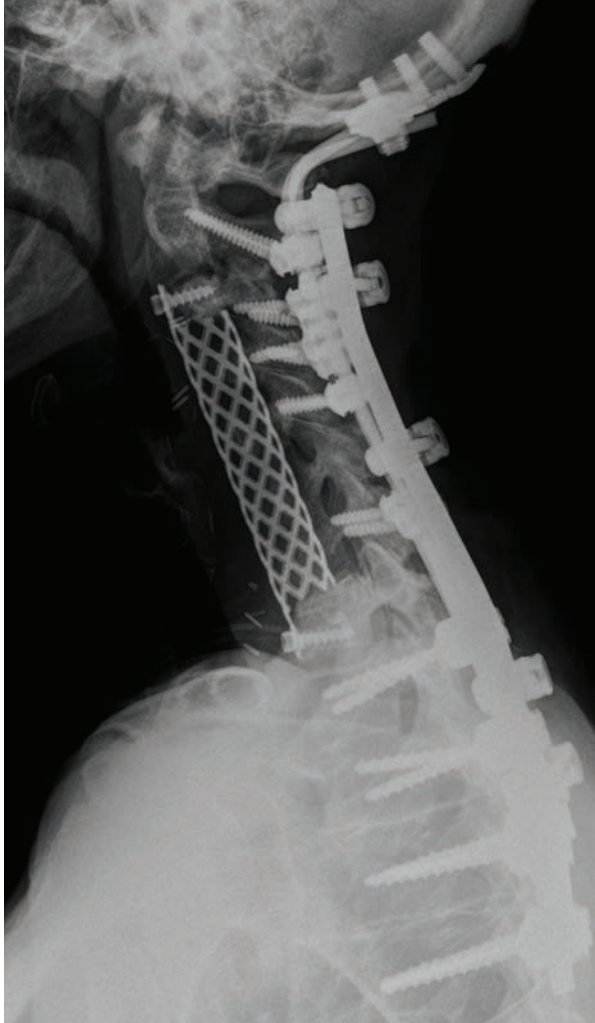
HEALING TRAUMA PATIENTS AND FAMILIES

Each day a trauma patient is wheeled into the hospital, Vanderbilt surgeons know they will be repairing more than the patient's physical damage. They'll have to address the emotional fears and grief of the entire family to achieve a full recovery. That's why Trauma Professor of Surgery John Morris, M.D., partnered with John L. Shuster, Jr., M.D., in the Psychiatry department. By studying the symptoms and progressions of what's known as "complicated grief," or grief that doesn't subside with time, the two **hope to develop an early warning system that identifies those patients and families who may need additional support in handling the traumatic incident.** Morris and Shuster are interviewing families who lost loved ones to trauma and experienced complicated grief. The information gleaned from these interviews will serve as a critical tool in determining how to heal both the patients and their families.

FIRST OF ITS KIND NEUROENDOCRINE CENTER

In the summer of 2010, **Vanderbilt surgeons were the first in the nation to perform a specialized PET/CT scan to successfully locate the presence of tumors.** The previous method, still used at most institutions throughout the U.S., was likened to trying to see the sun through the clouds. Although still in clinical trials, the improved imaging is just one innovation Vanderbilt is spearheading to find and remove difficult to detect neuroendocrine tumors. Using a radiologic tracer, 68Ga-DOTATATE, Vanderbilt offers the highest resolution and sensitivity currently available in locating neuroendocrine tumors. Eric Liu, M.D., assistant professor of Surgery, Ronald Walker, M.D., professor of Radiology and Radiological Sciences, and Jeffrey Clanton, R.D., director of radiopharmacy, have partnered with the Vanderbilt-Ingram Cancer Center and the Vanderbilt Digestive Disease Center to open the Vanderbilt Neuroendocrine Center.





BREAST CONSERVING SURGERY

For decades, surgery was just the beginning for patients with breast cancer. But Vanderbilt's Division of Surgical Oncology is changing all that with an innovative approach to radiation therapy. **Rather than schedule daily radiation treatments over a six-week period, following surgery, surgeons are now delivering this therapy in one shot while still in the operating room.** This technique, known as Intraoperative Radiation Therapy, is just making its way to medical institutions throughout the country. "Not only does this surgical technique save patients the hassle and frustrations of traveling to a clinic every day for six weeks, it can reduce the need for further surgeries," said Mark Kelley, M.D., chief of Surgical Oncology.

REBUILDING A SPINE WITH TITANIUM

When Matthew McGirt, M.D., met 27-year-old Judy Kerns, her head was literally falling off of her shoulders. After a severe car accident, Kerns' cervical spine was crumbling, forcing her chin into her collar bone. She couldn't open her mouth to eat, nor could she stand upright. With hope running out, she turned to Vanderbilt. After straightening the spine through the use of weights, **McGirt then began the never-before-done process of rebuilding Kerns' cervical spine, from head to chest, with titanium.** And her posterior neck muscles were reconstructed from vascularized back muscle flaps. The miraculous procedure gave Kerns her life back. She can eat, stand upright and has no pain. "This is one of those one-in-a-million cases that leaves you filled with joy and wonder," said McGirt, director of Clinical Spine Research and assistant professor of Neurological Surgery. "This is why I'm at Vanderbilt."

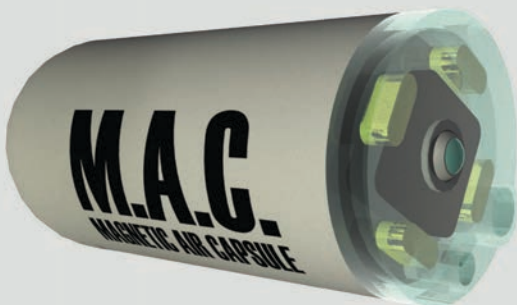
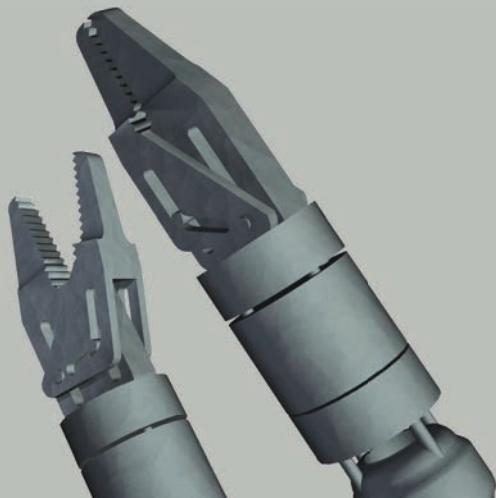
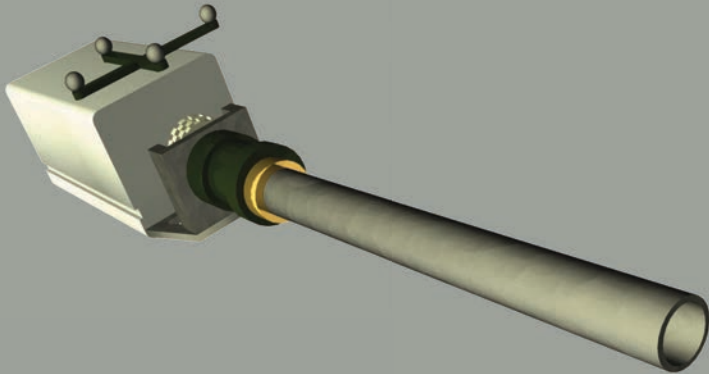




ENGINEERING AND MEDICINE COLLABORATE TO IMPROVE PATIENT CARE

In an effort to provide engineering solutions that improve surgical outcomes, the Section of Surgical Sciences has launched the Vanderbilt Institute for Surgical Engineering (VISE). One of the first of its kind in the U.S., **VISE formalizes the collaboration among leading surgeons, physicians, engineers and computer scientists to design clinical processes that improve patient care, starting in the OR.**

Already, the group is developing robotic platforms that will revolutionize the ability to more precisely deliver drugs and therapies in the OR at the time of surgery. "VISE is a red-hot conglomeration of dedicated surgeons, established engineers and young, enthusiastic scientists all looking for innovations that create the operating room of the future," said Duke Herrell, M.D., institute director and associate professor of Urologic Surgery. "The Institute breaks down traditional departmental barriers and includes everyone in the process, from the inventors of new technology to the residents and nursing students just starting out to the surgeons performing life-saving procedures. And ultimately, it's our patients who win."



Scan the code with your smartphone to download the endoRobot app from iTunes.

LEADING THE STATE IN NEW APPROACHES TO REMOVING TUMORS

TEMS — All too recently, patients diagnosed with rectal tumors had few choices, one of which was to undergo extensive surgery that required considerable time to recover. Today, Vanderbilt colorectal surgeons offer patients an innovative alternative. A minimally-invasive laparoscopic procedure known as TEMS, or trans-anal endoscopic microsurgery, enables surgeons to remove some Phase 1 and Phase 2 rectal tumors, while leaving the surrounding tissue intact. **Timothy M. Geiger, M.D., and Alan Herline, M.D., are two of only a handful of surgeons in the region who perform TEMS surgery on patients in the early stages of rectal cancer.** “As surgeons, we must always consider what the quality of life will be for our patients following surgery. This procedure enables us to treat the cancer, while doing just that,” said Geiger.

Posterior Adrenalectomies — As summer was coming to an end in 2010, surgeons at the Vanderbilt Endocrine Surgery Center performed a Tennessee first, paving the way for easier, less painful removal of adrenal tumors. Known as “retroperitoneoscopic” or posterior adrenalectomy, **the procedure enables surgeons to remove these benign tumors by making just three small incisions to the back.** Previous treatments required more extensive open surgery to the abdomen, placing certain risk to adjacent abdominal organs. The new procedure enables patients to recover faster and leave the hospital faster. James Broome, M.D., and Carmen Solorzano, M.D., achieved the state first by operating on a 54-year-old woman who suffered from myriad, vague symptoms. Diagnostic imaging revealed the adrenal tumor. Just one day following surgery, the patient was able to go home, tumor removed. “Our hope is to become a regional center of expertise where patients can finally find answers to this often elusive disease,” said Solorzano.



For perhaps the first time in history, we have the opportunity to truly change the way we treat and care for our patients. Current medicines are provided with a one size fits all dosing strategy, which doesn't always meet the needs of every patient. That's why Vanderbilt physicians and surgeons have been working tirelessly over the last several years to lead the country in offering treatments that are tailor-made for each patient. That's the concept behind personalized medicine, and it's where Vanderbilt is headed.

RESEARCH: IMPROVING LIVES

\$7.6 MILLION GRANT AWARDED TO STUDY PROSTATE CANCER

With the goal of improving surgical outcomes, **Vanderbilt in 2010 received a \$7.6 million stimulus grant to compare the effectiveness of various prostate cancer treatments.** The three-year grant, known as CEASAR, Comparative Effectiveness Analysis of Surgery and Radiation study on prostate cancer, is part of a national effort that seeks to improve treatments for high-priority conditions, as identified by the Institute of Medicine. David Penson, M.D., M.P.H., and Daniel Barocas, M.D., M.P.H., of the department of Urologic Surgery will lead the study that includes six other clinical sites and two research methodology sites, including the MD Anderson Cancer Center. Vanderbilt will collect key patient-reported outcomes from 4,200 men who were recently diagnosed with prostate cancer, and follow them for a year. They will then assess quality of life, post-surgery, and side-effects of therapy. "This study will help us determine a scientific basis for what works best, in which patients, and in whose hands," said Penson.



IDENTIFYING COLON CANCER PATIENTS MOST LIKELY TO BENEFIT FROM CHEMOTHERAPY

Surgical Sciences Chair R. Daniel Beauchamp, M.D., and research colleagues successfully identified a gene signature in mouse colon cancer cells that may help identify patients at risk of colon cancer recurrence. Their findings, published in *Gastroenterology*, could help personalize treatments for colon cancer — the second leading cause of cancer-related deaths in the U.S. — by identifying patients most likely to benefit from chemotherapy. "This really feeds right into personalized cancer medicine. . . in identifying subgroups of patients who will benefit from one treatment versus another, and targeting those patients who are most likely to benefit, while not exposing to potentially toxic treatments those patients who are less likely to benefit," said Beauchamp, the J.C. Foshee Distinguished Professor of Surgery, Surgeon-in-Chief, Vanderbilt University Hospital, and Deputy Director, Vanderbilt-Ingram Cancer Center.

LEADERSHIP

James R. Goldenring, M.D., Ph.D.
Vice Chair, Research

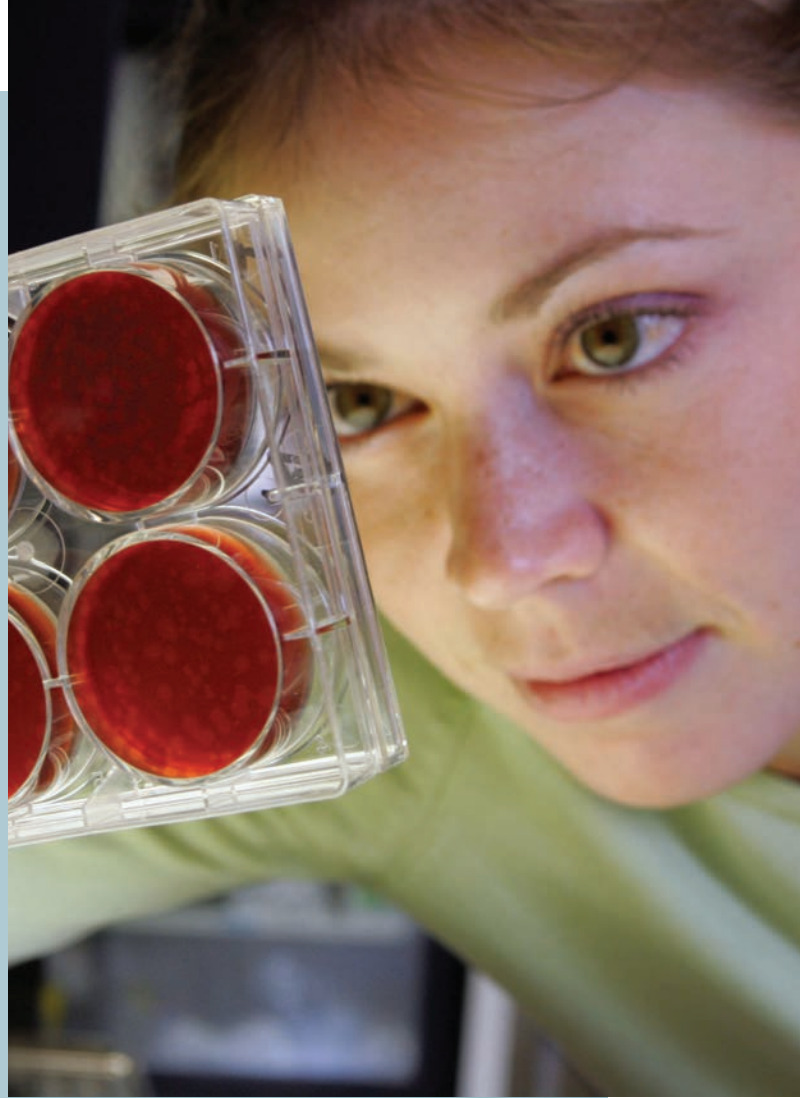
Phil Williams
Director, S.R. Light Lab



IMPROVING LUNG CANCER DIAGNOSES AND SURGICAL TREATMENTS

The National Cancer Institute recently awarded Vanderbilt Thoracic Surgery a Specialized Program of Research Excellence (SPORE) pilot grant to determine if a new molecular compound can be used to more accurately find and remove small lung tumors through minimally-invasive thoroscopic surgery. Current surgical treatment requires surgeons to fully open the chest area, which places patients at greater risk for complications. If effective, the new treatment offers the promise for earlier diagnosis of lung cancer. “If we can use minimally invasive surgical techniques to find and remove these tumors when they are small, then we have a chance to cure lung cancer,” said Grogan, assistant professor of Thoracic Surgery. “Otherwise, the cancer has the potential to spread to the lymph nodes, where a cure is much less likely. That’s why research like this is so critical.”

Grogan and the entire department of Thoracic Surgery are also **beginning a national clinical trial to determine if a new lung-sparing surgery could offer the same benefits as the current surgical technique that removes the entire portion of the affected lung.** The clinical trial, coordinated by the Cancer and Leukemia Group B (CALGB), will treat patients who have been recently diagnosed with non-small cell lung cancer and who have lesions less than two centimeters in size located near the periphery of the lung. Participants will be randomly assigned complete lobectomy or the new lung-sparing surgery. They will then receive clinical care and follow-up for five years. “This clinical trial supports our broad philosophy to personalize each operation for each individual patient as a means of providing the best care,” said Joe B. (Bill) Putnam, Jr., M.D., chair of Thoracic Surgery.



TARGETING MELANOMA

The Vanderbilt Division of Surgical Oncology is **one of a handful of institutions developing a comprehensive system of testing melanoma patients for the abnormal genes that cause the skin cancer.**

Known as Reflux Testing, the system enables surgeons to routinely analyze patient tumors for the abnormal genes. Once a patient is identified as having these genes, targeted molecular therapy is provided. “Our goal is two pronged,” said Mark Kelley, chief of Surgical Oncology. “Not only will Reflux Testing allow us to target therapies specific to each patient’s genetic make-up, but by following their prognosis, we can better understand how each patient reacts differently to each therapy.”



Collegiality and collaboration are hallmarks of a Vanderbilt education. Whether training residents on the very latest surgical innovations or questioning how hospital processes can be improved, the Section of Surgical Sciences considers education a continually evolving plan to shape the very future of medicine. Recognizing that knowledge cannot be acquired in a vacuum, Surgical Sciences has created a comprehensive surgery education program that embraces the expertise and insights of all patient care disciplines, including nursing, anesthesiology and radiology. Whether a first-year resident or a seasoned surgical chair, the rewards of learning lead directly to innovation.

EDUCATION: SHAPING THE FUTURE



CHANGING 100 YEARS OF APPRENTICE-STYLE SURGICAL TRAINING

Just as pilots train in a flight simulator, Vanderbilt surgical residents and medical school students planning a career in surgery are learning critical surgical skills in an innovative simulated operating room environment. Building on the Department of Surgery's highly successful and evolving simulation training program, Jonathan C. Nesbitt, M.D., launched the Cardiac Surgery Simulation Program — **one of only a handful of institutions in the world offering a life-like beating heart simulation model.** Intricate procedures, such as coronary bypass surgery, aortic valve replacement and aortic root replacement are simulated. The department of Surgery's simulation training program, led by Light Lab Director Phillip Williams and former Administrative Chief Resident Kyla Terhune, M.D., now assistant professor of General Surgery, is novel in that it is led by the efforts of many

residents who are committed to acquiring and improving skills outside of the operating room in a low stakes, low cost, yet highly effective environment. The program provides residents with specialized skills training laboratories four times a month, enabling residents to perform actual surgical techniques, such as laparoscopy as well as traditional open surgery. Senior residents participate in quarterly skills sessions in preparation of the acquiring required certification in "Fundamentals of Laparoscopic Surgery." And new residents attend a two-day boot camp through Vanderbilt's Center for Experiential Learning and Assessment (CELA), which teaches practical skills in a simulated environment. Following 100 years of apprentice-style surgical training, Vanderbilt's simulation program is bridging the gap between surgical knowledge and real world experience.



INTERNATIONAL RESIDENCY TRAINING

On November 30, 2010, Vanderbilt pediatric surgeon Erik Hansen, M.D., began an 8,000 mile journey to Kenya that opened the door to Vanderbilt's international residency training program in General Surgery. Over the next two years, Hansen, who was recently appointed associate program director for international residency training, is teaching medical professionals and students at Kijabe Hospital intricate pediatric procedures. Surgical training is critically needed in sub-Saharan Africa, where the World Health Organization estimates that by the time a child reaches the age of 15, he has an 85 percent chance of requiring some form of surgical care. "This arrangement will open **enormous potential opportunities for Vanderbilt students, residents and faculty to collaborate in the mission of improved global health,**" said Wallace Neblett, M.D., former chair and professor of Surgery in the department of Pediatric Surgery. Vanderbilt International Surgery is partnering with Vanderbilt International Anesthesia and pediatric anesthesiologist Mark Newton, M.D., to provide further training for care providers and leaders in East Africa. Since the program's start, rotations are now offered in broad-based General Surgery with experiences in General, Pediatric, Plastic and Urologic Surgery.

IMPROVING PATIENT SAFETY

Each quarter, nearly 500 faculty, residents and staff from all areas of surgery, as well as nursing, anesthesiology and radiology gather to review the outcomes of previous surgeries all in an effort to improve patient safety. Spearheaded by Roger Dmochowski, M.D., and Jeffery B. Dattilo, M.D., the Multi-Disciplinary Perioperative Morbidity & Mortality Improvement Conference enables active discussion and brainstorming on how adverse events could have been avoided, how to prevent future occurrences, and how improvements can be made across the entire hospital system. The ideas offered in these discussions are then brought to a committee, which meets monthly to develop solutions that are quick, efficient and sustainable. These solutions are then implemented by those directly involved in the process. Notable successes have resulted, including **a significant reduction in surgical site infections and the development of training on the use of ultrasound to better guide placement of central venous catheters.**



LEADERSHIP

John L. Tarpley, M.D.
Program Director, General Surgery
Residency Program

Steven J. Eskind, M.D.
Associate Program Director, General Surgery,
and Director, Surgical Clerkship Program

Kyla Terhune, M.D.
Associate Program Director, General Surgery
Residency Program

Erik Hansen, M.D., M.P.H.
Associate Program Director, International Residency Training

Raymond S. Martin, III, M.D.
Associate Program Director



Growth

Despite ongoing challenges with the national and international economies, Vanderbilt University Medical Center and the School of Medicine continue to grow. Under the leadership of Jeffrey R. Balsler, M.D., Ph.D., Vice Chancellor of Health Affairs and Dean of the School of Medicine, Vanderbilt remains a leader in surgical innovations — all while improving services, efficiencies and patient outcomes.

The Section of Surgical Sciences has grown both financially and in faculty size, more than doubling its faculty since 2001 to nearly 200 today.

As a principal referral center for physicians and patients throughout the region, Vanderbilt now sees patients at its satellite location, 100 Oaks, a 440,000 square foot facility, which serves as a critical second campus for outpatient clinical care in Nashville.

Vanderbilt also opened the doors of its new, \$169, million state-of-the-art Critical Care Tower to meet ever-increasing demand for inpatient and surgical services, which exceeded 30,000 cases in 2010. The 11-story, 329,000 square foot addition to Vanderbilt University Hospital adds 12 new operating rooms and 102 patient beds to the existing 19 operating rooms. Constructed with an eye towards a multi-functional approach to surgery, the new ORs are fully interchangeable and are configured into pods to maximize teamwork.

Finally, in early 2011, Vanderbilt launched a \$30 million, 33-bed expansion project for its Monroe Carell Jr. Children's Hospital. The added neonatal, acute care and medical-surgical beds will be housed in a new five-story facility adjacent to the existing building.



Vanderbilt is one of Middle Tennessee's largest employers with approximately 15,000 employees and 3,000 full-time and clinical faculty members. Combined with Vanderbilt University, Vanderbilt has an annual regional economic impact of approximately \$6.5 billion.

Recently, Vanderbilt was named one of the top 100 best places to work in the United States, according to *Fortune* magazine, an honor never before bestowed upon an educational institution. And in 2010, *The Scientist* magazine ranked Vanderbilt in the top 12 of the best places for life scientists to work in academia.



LEADERSHIP

David Noel, MBA, CMPE
Vice Chair, Finance and
Administration

Philanthropy

From alumni to faculty members and friends, donors to the Section of Surgical Sciences support discovery, resident education and innovative advances in patient care. Several recent examples show the impact of philanthropic support to the Section.



PATIENT CARE

Award-winning recording artists Rascal Flatts contributed nearly \$3 million to build a new pediatric surgical suite named the Rascal Flatts Surgery Center. The suite will allow the healthcare team to treat children with especially challenging and complex surgical conditions. Currently, more than 12,700 pediatric surgeries are performed each year at Monroe Carell Jr. Children's Hospital at Vanderbilt.



EDUCATING SURGICAL LEADERS

The names John L. Tarpley and Cully Cobb are particularly meaningful to surgical alumni, as these two faculty leaders are known for their excellence in teaching residents. In honor of these two outstanding educators, alumni and friends have established and grown two separate endowed funds—named for these leaders—to support resident education. Endowed funds offer donors the opportunity to contribute gifts of all levels to ensure the continued excellence of the surgery program at Vanderbilt.

DISCOVERY SCIENCE

Philanthropic support plays a vital role in accelerating the rate of surgical discovery at Vanderbilt. Researchers in the section advance the understanding of disease and pioneer new techniques to provide patients with more effective, less invasive surgeries. A new approach for easing adrenal tumor removal, deep brain stimulation for obsessive-compulsive disorder patients, and a grant to study prostate cancer treatment represent recent highlights related to surgical discovery science at Vanderbilt.

Carol Bullen
Director of Development
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DEPARTMENTS AND DIVISIONS

14 Department of Neurological Surgery

16 Department of Surgery

Division of General Surgery

Division of Hepatobiliary and Liver Transplantation

Division of Surgical Oncology and Endocrine Surgery

Division of Kidney and Pancreas Transplantation

Division of Trauma and Surgical Critical Care

Division of Vascular Surgery

Division of Burn Surgery

32 Department of Pediatric Surgery

34 Department of Plastic Surgery

36 Department of Cardiac Surgery

Division of Pediatric Cardiac Surgery

40 Department of Thoracic Surgery

42 Department of Oral and Maxillofacial Surgery

Division of Dentistry

Division of Orthodontics

44 Department of Urologic Surgery

Division of Pediatric Urologic Surgery

The Department of Neurological Surgery consists of faculty, residents and staff all focused on providing preeminent, high quality, cost-effective patient care, while also educating tomorrow's Neurosurgical leaders and advancing research in the Neurosciences.



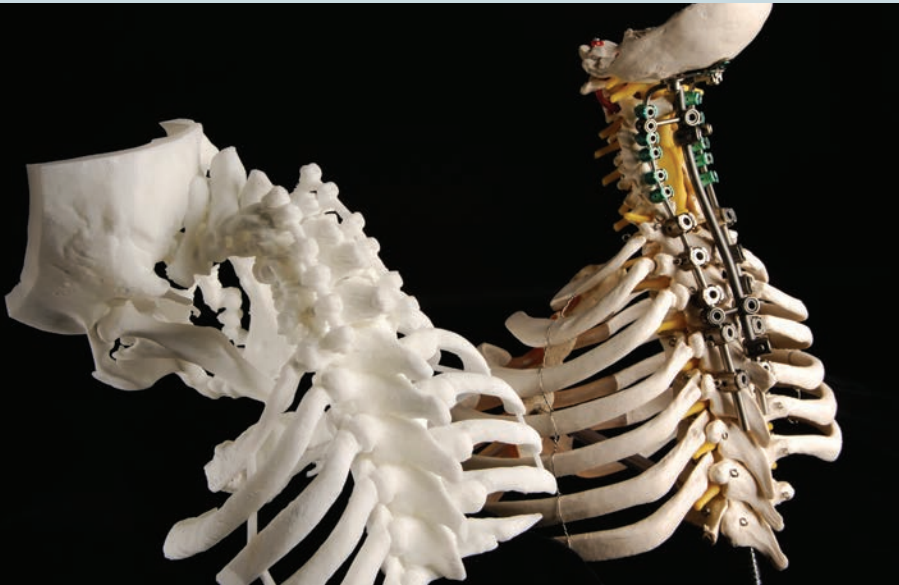
EDUCATION

The rewards of collaboration have also resulted in a highly successful residency program that enables our residents to pursue research interests and carry out independent projects in a mentored environment. Several of our recent residents have successfully received independent funding for their research projects. And our overall research portfolio is funded via a broad spectrum of agencies, including the NIH and various foundations. Our residents come to us from all across the country, including USCF, the University of Florida, the University of Michigan, University of Pennsylvania and Johns Hopkins University Medical School. Our commitment to education has enabled them to become leaders in their communities, both in private practice and in academic medical institutions throughout the U.S.



CLINICAL PROGRAMS

Neurological Surgery is comprised of six sub-specialty areas, including Spine, Functional, Neuro-Oncology, Cerebrovascular and Endovascular, Pediatrics, and Community Practice.



ACCOMPLISHMENTS

- The Neurosurgery Community Practice Program was initiated with the opening of the Neurosurgery Clinic in Cool Springs.
- Clinical Spine Research at Vanderbilt continues to garner national attention. Matthew McGirt, M.D., has established real-time monitoring to track outcomes of surgical techniques, and is a participant in the National Neurosurgery Quality and Outcomes Database.
- Vanderbilt Neurological Surgery hosted the 10th Annual International Neuro-Oncology Update in Nashville.
- The Comprehensive Spine Center opened at Vanderbilt One Hundred Oaks.
- The Vanderbilt Clinical Neuroscience Institute was initiated.
- The Vanderbilt Sports Concussion Center was formed, a joint venture between the Vanderbilt Neurosciences Institute and Vanderbilt Orthopaedics Institute to integrate and standardize the care of patients who have suffered sports-related concussions.
- The Neurosurgery Residency Program received a five-year continued accreditation through 2015 from the RRC.
- In 2010, the Neurosurgery Residency Program received RRC approval to increase the number of residents trained to (3) per year, and (21) total.

FACULTY

Reid C. Thompson, M.D.
Professor and Chairman



Oran S. Aaronson, M.D.

George S. Allen, M.D., Ph.D.

Joseph S. Cheng, M.D., M.S.

Peter E. Konrad, M.D., Ph.D.

Matthew J. McGirt, M.D.

J Mocco, M.D., M.S.

Joseph S. Neimat, M.D., M.S.

Matthew M. Pearson, M.D.

Allen K. Sills, M.D.

Robert J. Singer, M.D.

Noel B. Tulipan, M.D.

Kyle D. Weaver, M.D.

RESEARCH

Corrie R. Camalier, Ph.D.

C. Chris Kao, M.D., Ph.D.

Anna Marie Kenney, Ph.D.

Zaher A. Nahle, Ph.D.

Michael S. Remple, Ph.D.

Jialiang Wang, Ph.D.

RESEARCH

One of our core goals is to create new knowledge and translate it into practice by investing in and developing innovative research programs. We have active research programs that span from basic research projects in the lab to clinical projects and outcomes research endeavors. Our long-standing commitment to collaboration with departments outside of Neurological Surgery has led to innovative and exciting new discoveries, in large measure because of the multidisciplinary work we do with Biomedical Engineering, Mechanical Engineering, Electrical Engineering, Neurology, Ophthalmology, Orthopaedic Surgery and Otolaryngology, just to name a few.

The Department of Surgery is home to the General Surgery Residency Program and to seven clinical service divisions: General Surgery, Hepatobiliary Surgery and Liver Transplantation, Kidney and Pancreas Transplantation, Surgical Oncology and Endocrine Surgery, Trauma and Surgical Critical Care, Burn Surgery, and Vascular Surgery.



PATIENT CARE

With a commitment to providing the very best in patient care, our divisions are setting new standards. In 2010, we achieved a transplant milestone, performing our 4,000th kidney transplant. Our Level 1 Trauma Center is ranked in the top 20 with an Observed/Expected Mortality rate of 0.73. And we continue to offer first-in-class surgical innovations through the development of innovative centers, including the newly developed Vanderbilt Neuroendocrine Center.

This focus on excellence has enabled the Department of Surgery to continue to grow. Hospital admissions have increased more than six percent each year, and our ambulatory surgical cases have risen nearly eight percent, on average, each year.



RESEARCH

Despite increasing competition for Federal research dollars, Vanderbilt continues to rank in the top 10 among medical schools in critical NIH funding. Research programs within the Department of Surgery recently totaled more than \$32 million.



EDUCATION

Our educational training rivals the best in the nation. The Vanderbilt General Surgery Residency Program was once again granted full accreditation for the full five years through 2015. And we consistently surpass all averages as reviewed by the ACGME.

The combination of these

successes has resulted in the recruitment of outstanding surgical leaders, including Seth J. Karp, M.D., director of the Vanderbilt Transplant Center, and many others.

We look forward to setting even higher standards in patient care, research and education in the coming years.

FACULTY

Naji N. Abumrad, M.D.

John L. Sawyers Professor of Surgery and Chairman

William H. Nealon, M.D.

Vice-Chair, Surgery

Kenneth W. Sharp, M.D.

Vice-Chair, Faculty Affairs

William H. Nealon, M.D.

Chief, General Surgery

John Kelly Wright, Jr., M.D., M.B.A.

Chief, Hepatobiliary Surgery and Liver Transplantation

Mark C. Kelley, M.D., M.M.H.C.

Chief, Surgical Oncology and Endocrine Surgery

David Shaffer, M.D.

Chief, Kidney and Pancreas Transplantation

Richard S. Miller, M.D.

Acting Chief, Trauma and Surgical Critical Care

Thomas C. Naslund, M.D.

Chief, Vascular Surgery

Jeffery S. Guy, M.D., M.Sc., M.M.H.C.

Chief, Burn Surgery

Seth J. Karp, M.D.

Director, Vanderbilt Transplant Center

John L. Tarpley, M.D.

Program Director, General Surgery Residency



The Division of General Surgery encompasses expertise in several areas of general surgery concerned with the care of abdominal disorders involving emergency general surgery, advanced laparoscopy, bariatric surgery, colorectal surgery, and esophageal and pancreatic procedures.

CENTER FOR SURGICAL WEIGHT LOSS

The Vanderbilt Center for Surgical Weight Loss in 2011 evaluated 540 new morbidly obese patients, and 751 patients attended the Center's informational seminar, which is now available online. Surgical Weight Loss surgeons perform laparoscopic and robotic Roux-en-Y gastric bypass, laparoscopic Adjustable Gastric Band procedures and gastric sleeve procedures. The center also provides many patient-oriented services, including a preoperative information seminar on bariatric surgery, several patient support groups, and access to trained psychologists and nutritionists.

COLON AND RECTAL SURGERY

The Colon and Rectal Surgery Program at Vanderbilt is the fastest growing colon and rectal surgery practice in middle Tennessee. Surgeons treat the full-spectrum of diseases of the colon, rectum and anus, working collaboratively with a team of gastroenterologists, endoscopists and experts from the Vanderbilt-Ingram Cancer Center. The Colon and Rectal Surgery Program also initiated and coordinates the Hereditary Colon Cancer Registry, which gathers critical information on patients and their family members who have either had colorectal cancer or are at risk of developing the disease. This registry enables physicians and surgeons to better understand the nature of hereditary colorectal cancer, ultimately leading to improved treatment options.





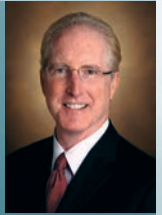
ACCOMPLISHMENTS

- Ronald H. Clements, M.D., joined Vanderbilt as professor of Surgery and director of Bariatric Surgery.
- Timothy M. Geiger, M.D., joined the Vanderbilt Colon and Rectal Surgery Center as assistant professor of Surgery. He specializes in Transanal Endoscopic Micro-Surgery (TEMS) rectal surgery, rectal cancer, colon cancer and diverticulitis.
- Alan J. Herline, M.D., has been appointed program co-chair of the American Society of Colon & Rectal Surgeons. The Program Committee plans, implements and evaluates the scientific program of the annual meeting.
- Michael D. Holzman, M.D., is the Lester and Sara Jayne Williams Professor of Surgery and has a strong interest in outcomes research. He collaborates with Dr. Poulouse in these studies.
- Willie V. Melvin, M.D., is adding robotic capabilities to the Bariatric Program. He is performing robotic bypasses and adjustable bands.
- Roberta L. Muldoon, M.D., has been working with Drs. Benjamin Poulouse, Joan Kaiser and William Nealon to develop the Vanderbilt Procedure Outcomes Database (VPOD). This database will provide ongoing data capture and analysis for patients undergoing operations or procedures at Vanderbilt University Medical Center for quality improvement, maintenance of Board certification and research.
- William H. Nealon, M.D., was named chief of the division of General Surgery July 1, 2011.
- Paul E. Wise, M.D., was elected president of the Collaborative Group of the Americas on Inherited Colorectal Cancer (CGA). He has held leadership positions on the council since 2008.
- Kenneth W. Sharp, M.D., remains active on the American Board of Surgery (director), the Southern Surgical Association (first vice president for 2011), the American College of Surgeons (Advisory Council for General Surgery, member of the Board of Directors for the ACS Foundation), and the Southeastern Surgical Congress (secretary – director). He was named vice-chair for Faculty Affairs in the department of Surgery July 1, 2011.

FACULTY

William H. Nealon, M.D.
Professor and Chief

Ronald H. Clements, M.D.
Timothy M. Geiger, M.D.
Alan J. Herline, M.D.
Michael D. Holzman, M.D.
Willie V. Melvin, M.D.
Roberta L. Muldoon, M.D.
Benjamin K. Poulouse, M.D.
Kenneth W. Sharp, M.D.
Kyla Terhune, M.D.
D. Brandon Williams, M.D.
Paul E. Wise, M.D.



RESEARCH

Leonard Bradshaw, Ph.D.

CLINICAL SURGERY

Ysela M. Carrillo, M.D.
Ralph J. Laneve, M.D.
Henry P. Russell, M.D.

RESEARCH

The division recognizes that research is a critical cornerstone in the development of new patient treatments and therapies. In the Bariatric Program, clinical studies are underway that focus on surgical weight loss; in General Surgery, Drs. Poulouse and Holzman are studying a broad array of gastrointestinal disorders as part of its effective outcomes research, and in Colorectal Surgery, faculty are studying the genetic basis for colorectal neoplasia.

EDUCATION

The division of General Surgery is committed to providing medical students, residents and fellows with a wide array of surgical training, including laparoscopic and open general surgery procedures in the treatment of morbid obesity, gastroesophageal reflux disease, pancreatic and biliary diseases, hernias and colorectal diseases.

The Division of Hepatobiliary Surgery and Liver Transplantation participates in a comprehensive medical-surgical-radiologic hepatobiliary referral service, emphasizing diagnosis and medical management of liver and bile duct diseases with a variety of treatment strategies, including liver resection, RF ablation, alcohol injection, chemoembolization, porto-systemic shunting, TIPS, laparoscopic procedures, and biliary bypass, as well as liver transplantation.

THE VANDERBILT TRANSPLANT CENTER

The liver transplantation program is part of the Vanderbilt Transplant Center, which represents a major commitment to the ever-expanding and important field of transplantation. The heart, lung, bone marrow, kidney, and pancreas transplantation programs closely interact with one another.



CLINICAL PROGRAMS

The clinical activities of the division encompass close interaction with many other services, including gastroenterology (hepatology), invasive radiology, general and oncologic surgery, other transplantation programs, immunology, medical oncology and the division of Surgical Research, thus providing comprehensive multidisciplinary diagnostic and treatment approaches in hepatobiliary disease as offered throughout Vanderbilt University Medical Center. Members of the faculty participate in cases at the Vanderbilt University Hospital and the VA Medical Center.

EDUCATION

The division contributes to the General Surgery Residency Program through evaluation and management of patients with a variety of hepatobiliary disorders. Residents rotate on the service in the PGY 1, PGY 3, and chief resident years. The division is organized with a commitment to improve clinical care of these complex patients, to further education in hepatobiliary anatomy and physiology, and to facilitate research in these areas.

RESEARCH

Research efforts of the division are focused on a variety of topics, including molecular determinants of tumor progression in liver microenvironments (steatosis, hepatitis), lipidomics in the pathogenesis of pancreatic disease, QOL outcomes in liver transplantation with special emphasis on neurocognitive recovery, proteomic analysis of donor and recipient liver biopsies as predictors of liver graft survival, and a variety of clinical projects involving immunosuppression.

FACULTY

John Kelly Wright, Jr.,
M.D., M.B.A.
Professor and Chief



Sunil K. Geevarghese,
M.D., M.S.C.I.

D. Lee Gorden, M.D.

Seth J. Karp, M.D.

Burnett S. Kelly, Jr., M.D.

C. Wright Pinson, M.D., M.B.A.

RESEARCH

Irene Feurer, Ph.D.

Dengping Yin, M.D., Ph.D.

Michael Van Saun, Ph.D.



DIAGNOSIS AND TREATMENT

The division also participates in a comprehensive diagnostic and treatment program in hepatobiliary disease, offered by the Vanderbilt Clinic. This multidisciplinary group evaluates patients to establish a diagnosis, assess the severity of the disease and develop a treatment plan.

ACCOMPLISHMENTS

- The Division won a bronze Health and Human Services Award, ranking it in the top quartile of transplant programs throughout the U.S.
- The Division performed 92 liver transplants in 2010.
- D. Lee Gorden, M.D., received a Fulbright Scholars Award, participating in a clinical and research exchange with the University of Paris affiliate, the Paul Brousse Hospital in Paris, France.
- Burnett S. Kelly, Jr., M.D., achieved 100 percent patient satisfaction, and received the American Society of Transplant Surgeons top 10 Abstract Award.

The Division of Surgical Oncology and Endocrine Surgery is an integral part of the Vanderbilt Department of Surgery. Emphasis is placed on the evaluation and treatment of patients with benign and malignant tissue disorders. We use a multidisciplinary approach to patient care and work closely to coordinate our efforts with the divisions of Radiation Oncology, Medical Oncology, Gynecologic Oncology, Hematology, and Surgical Pathology.

ENDOCRINE SURGERY CENTER

The goal of the Vanderbilt Endocrine Surgery Center is to provide the best overall care for individuals with problems related to the endocrine system (the thyroid gland, parathyroid glands, adrenal glands, and pancreas). The Center combines the diagnostic and treatment strengths of experts from numerous medical fields, including medical endocrinologists, endocrine surgeons, radiologists, nuclear radiologists, ultrasonographers, ophthalmologists, cytopathologists, medical oncologists and advanced practice nurses.

NEUROENDOCRINE SURGERY

Our newly established Neuroendocrine Center was the first facility in the U.S. to use the 68Gallium-DOTATATE PET/CT scan that offers the highest resolution and sensitivity in locating tumors. Our goal is to offer our patients the comfort and security of knowing that we can see much more with this scan, and then surgically remove all tumors, not just some of them.



ACCOMPLISHMENTS

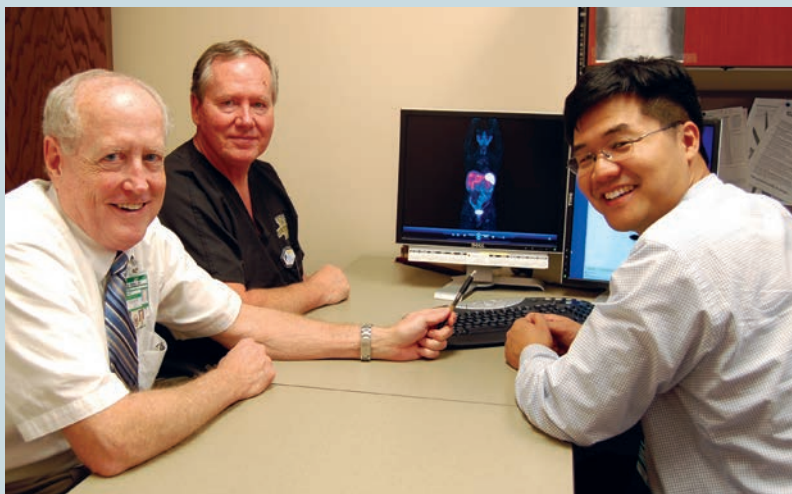
- Ingrid M. Meszoely, M.D., who was named one of Nashville's Women of Influence for 2011, achieved a perfect 100 percent patient satisfaction ranking in the 2010 Excellence in Healthcare Awards. Ana M. Grau, M.D. and Mark C. Kelley, M.D., achieved patient satisfaction scores in the top 10 percent.
- Carmen C. Solorzano, M.D., and James T. Broome, M.D., performed the state's first retroperitoneal adrenalectomy.
- Mark C. Kelley, M.D., continues to be recognized in Castle-Connolly Top Doctors in America, and in Best Doctors in America.
- Nipun B. Merchant, M.D., received the John L. Sawyers Award for Outstanding Contribution to Surgical Residents.
- Eric H. Liu, M.D., became the first surgeon in the country to use the specialized 68Gallium DOTATATE radioisotope to more clearly locate neuroendocrine tumors.
- Carmen C. Solorzano, M.D., was recognized in *Who's Who in Medicine and Healthcare*, 2010; Castle Connolly Top Doctor, 2011; Best Doctors in America, 2011.
- Alexander Al. Parikh, M.D., was recognized in America's Top Surgeons; Consumers Research Council of America; Madison *Who's Who Among American Professionals*, Honors Edition, 2008.



INNOVATION

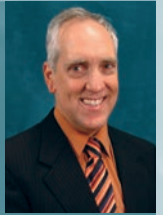
The Division of Surgical Oncology at Vanderbilt has quietly become the primary force for acquiring and banking cancerous tissue samples, a vital first step in the delivery of personalized medicine. With these samples, researchers can begin the process of determining what molecules or markers drive tumor growth. From there, therapies that block activation of these markers

can be developed. Recently, Vanderbilt's Division of Surgical Oncology was one of only three institutions that partnered with a biotech company to develop a drug that specifically binds to the BRAF molecule in melanoma, which activates tumor growth. Such targeted drug design offers the promise of the right drug, to the right patient, at the right time.



FACULTY

Mark C. Kelley, M.D.,
M.M.H.C., F.A.C.S.
Associate Professor and Chief



Naji N. Abumrad, M.D.

R. Daniel Beauchamp, M.D., F.A.C.S.

James T. Broome, M.D.

Ana M. Grau, M.D., F.A.C.S.

Mary Alicia Hooks, M.D.,
M.B.A.

Eric H. Liu, M.D.

Nipun B. Merchant, M.D.,
F.A.C.S.

Ingrid M. Meszoely, M.D.

Alexander A. Parikh, M.D.,
F.A.C.S.

A. Scott Pearson, M.D.

Carmen C. Solorzano, M.D.,
F.A.C.S.

RESEARCH

Claudia Andl, Ph.D.

Pran K. Datta, Ph.D.

Natasha G. Deane, Ph.D.

Punita Dhawan, Ph.D.

Anna L. Means, Ph.D.

Wael El-Rifai, M.D., Ph.D.

Amar B. Singh, Ph.D.

Alexander I. Zaika, Ph.D.

The Division of Kidney and Pancreas Transplantation is one of the oldest and most experienced kidney transplant programs in the United States, having performed more than 4,000 kidney transplants since our inception in 1962. We are currently the third largest kidney transplant program in the Southeast, having performed 187 kidney transplants in 2009, 172 in 2010 and 209 in 2011. The Division performs cadaver and living kidney transplants, living donor nephrectomies, simultaneous kidney/pancreas transplants, and pancreas after kidney transplants.



PATIENT CARE

Our experienced team is dedicated to combining the latest medical and technical advances in transplantation with the highest quality care for patients and their families to achieve superior transplant outcomes.

We were the first transplant program in Tennessee to introduce the minimally invasive technique of laparoscopic donor nephrectomy for living donor kidney transplants and perform the largest number of living donor kidney transplants in the state. We also specialize in providing dialysis access for patients with end-stage renal disease, both vascular access for hemodialysis and peritoneal dialysis.

Adult transplants are performed at the Vanderbilt University Medical Center and the adjacent Nashville Veterans Administration. Pediatric kidney transplants are performed at the Monroe Carell Jr. Children's Hospital at Vanderbilt. Surgeons in the division work closely with a multidisciplinary team of transplant nephrologists, nurse practitioners, transplant coordinators, clinical pharmacists, social workers, financial counselors and other physician specialists to guide patients and their referring physicians through every stage of the transplant process.

RESEARCH

Faculty are active in clinical research, including organ allocation, evaluation of living donors, and surgical outcomes and quality of life following kidney transplant and laparoscopic donor nephrectomy. We also participate in industry-sponsored Phase III and Phase IV studies of promising new immunosuppressive agents in kidney transplantation.

ACCOMPLISHMENTS

- The Vanderbilt Adult Kidney and Pancreas Transplant Program received the HRSA/Organ Donation and Transplantation Alliance Bronze Award at the 6th National Learning Congress for the Donation and Transplantation Community of Practice.
- Derek Moore, M.D., presented “Comparison of Open Live Donor Nephrectomy, Laparoscopic Live Donor Nephrectomy, and Hand-Assisted Live Donor Nephrectomy: A Cost-Effectiveness Analysis,” at the SAGES World Congress, National Harbor, Maryland.
- Deonna Moore, NP, presented “Living Kidney Donor Evaluation and Factors Leading to Non-Donation” at the UNOS Transplant Management Forum in Orlando, Florida, and at the American Transplant Congress.
- David Shaffer, M.D., presented the division’s experience with “Antibody Desensitization using IVIG in Living Donor Kidney Transplants with a Positive T-Cell Crossmatch,” at the ASTS 10th Annual State-of-the-Art Winter Symposium.
- Victor Zaydfudim, M.D., general surgery resident, was lead author of “Pretransplant Overweight and Obesity Do Not Affect Physical Quality of Life After Kidney Transplantation,” in the *Journal of the American College of Surgeons*.
- The Division continues its efforts to increase living kidney donation at Vanderbilt University Medical Center through antibody desensitization protocol with IVIG and Rituximab, and a paired kidney exchange program.

FACULTY

David Shaffer, M.D.
Professor and Chief

Douglas Hale, M.D.

Derek Moore, M.D., M.P.H.



EDUCATION

Our PGY-II and PGY-III General Surgery residents rotate on the Kidney and Pancreas Transplant Service — all in an effort to provide the very best in surgical training in a multidisciplinary, collaborative teaching environment.



The Division of Trauma and Surgical Critical Care is the only Level 1 Trauma Center in middle Tennessee and provides acute care and surgical services for patients across a 65,000 mile area of middle Tennessee, southern Kentucky and northern Alabama. Safely transporting patients from these distances requires more than 3,000 LifeFlight helicopter flights each year.

Services include Trauma, Surgical Critical Care and Emergency General Surgery.

These services account for more than 10 percent of total patient days at Vanderbilt University Hospital. In 2010, a new 34-bed Surgical Critical Care Unit was added with the opening of the new Critical Care Tower at Vanderbilt University Hospital.

PATIENT CARE

Solving the immediate crisis of trauma or acute illness is only the beginning. The division is committed to providing comprehensive care to both the patients and their families, focusing on repairing both the physical and emotional scars of trauma. Through Families First, families are included in daily rounds to gain a better understanding of the situation. The division also coordinates the Trauma Survivors Network, an extensive resource providing immediate care needs, education, counseling and guidance on reaching the next milepost of the journey following trauma.

The division also initiated in 2010 what may be the first of its kind partnership between Psychiatry and Surgery, in an effort to better treat the emotional needs of those patients and families experiencing prolonged or “complicated grief.”



FACULTY

Richard S. Miller, M.D.
Professor and Acting Chief

Raeanna C. Adams, M.D.

Oscar D. Guillamondegui, M.D.

Oliver L. Gunter, M.D.

Addison K. May, M.D.

John A. Morris, Jr., M.D.

Mickey M. Ott, M.D.

Mayar Patel, M.D.



RESEARCH

Research plays a key role in the Division of Trauma and Surgical Critical Care. Recognizing the fact that certain patients have a greater propensity for complications following trauma, the division is exploring several areas of interest, including a link between brain injury and depression. In 2011, division will complete a Department of Defense grant assessing 4,000 patients who have had broken bones to determine if bone metabolism is a factor abnormal bone healing.

EDUCATION

The division sponsors a two-year fellowship, which accepts four applicants each year. The program provides an intensive experience in surgical critical care, acute care surgery and trauma, as well as the opportunity to further research and administrative skills.

The division also offers Advanced Trauma Life Support Courses (ATLS) for housestaff and community physicians; Advanced Trauma Operative Management Courses for division fellows, and supervised training for military medics and physicians from Ft. Campbell rotating in Emergency Medicine, Trauma and Burn.

ACCOMPLISHMENTS

- Richard S. Miller, M.D., was appointed acting chief of Trauma and Surgical Critical Care July 1, 2011.
- John A. Morris, Jr., M.D., received the Best Paper award by the *Journal of Operations Management* for his paper on "Performance analysis of a focused hospital unit: the case of an integrated trauma center."
- Addison K. May, M.D., was promoted to Professor of Surgery and was elected to membership for the Southern Surgical Society.
- The Learning Channel filmed Vanderbilt's Division of Trauma and Emergency Department as part of its new series on Emergency Level 1.

The Division of Vascular Surgery emphasizes patient care, clinical education and research in vascular disease. Our faculty have diverse interests and expertise, providing comprehensive patient care for all vascular diseases and conditions. We treat peripheral arterial disease, carotid disease, visceral and renovascular disorders, as well as aneurysm disease of the thorax, abdomen and extremities. Minimally invasive techniques are routinely applied in the management of peripheral interventions, as well as in the management of aneurysms.

As part of the Vanderbilt Heart and Vascular Institute, we provide care in a single location for our patients with cardiovascular disease. Division Chief Thomas Naslund, M.D., directs an ICAVL-accredited noninvasive laboratory, which supports the noninvasive diagnostic efforts, as well as ultrasound-directed vascular intervention.



ACCOMPLISHMENTS

- Thomas C. Naslund, M.D.
Examiner, American Board of Surgery, Vascular Surgery Certifying Examination
Executive Council, Southern Association for Vascular Surgery (President, 2010-12)
Executive Committee, Vanderbilt Heart and Vascular Institute
Member, Executive POD Leadership, Vanderbilt University Medical Center
- Colleen M. Brophy, M.D.
Appointed Basic Science Consultant to American Board of Surgery In-Training Examination.
NIH grant funding research on “Prevention of vein graft failure.”
- Jeffery B. Dattilo, M.D.
John L. Sawyers, M.D., Teaching Award, Section of Surgical Sciences
Program Committee, Peripheral Vascular Surgery Society
Chair, Perioperative Quality Improvement Committee, Vanderbilt University Medical Center
Safety Officer, Section of Surgical Sciences
- Raul J. Guzman, M.D.
Appointed to the Research Education Committee of the Society of Vascular Surgery
Chair, Membership Committee, Southern Association for Vascular Surgery
NIH grant funding research on “Role of arterial calcification in restenosis”



FACULTY

Thomas C. Naslund, M.D.
Professor and Chief

Colleen M. Brophy, M.D.
Jeffery B. Dattilo, M.D.
C. Louis Garrard, M.D.
Raul J. Guzman, M.D.

RESEARCH

Joyce Cheung-Flynn

RESEARCH

Our basic science research on the patency of vascular bypass grafts has led to the identification of a protein that may be involved with the relaxation of smooth muscle associated with vascular bypass grafts and other small muscle tissue. These efforts are directed by Colleen M. Brophy, M.D., and funded through NIH and the Veterans Administration. Through collaboration

with Bioengineering, we hope to develop therapeutic agents in the treatment of fibrosis, inflammatory disorders and epithelial cancers. Other promising research includes an effort to understand the process of arterial calcification, led by Raul J. Guzman, M.D. Such investigation may lead toward mechanisms to prevent atherogenesis and complicating calcification.



EDUCATION

The Vascular Surgery Fellowship Program consists of a two-year educational curriculum, including research, noninvasive vascular laboratory, and operative and endovascular training.

The Division of Burn Surgery The Vanderbilt Regional Burn Center is a comprehensive burn center serving eight states in the Southern United States. The Center comprises a 25-bed inpatient unit, a special procedure area, as well as an outpatient clinic. The center provides care for victims of injuries from flame, electrical, chemical, blast and radiation. Additionally, the center provides care for patients with life-threatening desquamating skin disorders.

An integrated team of physicians, nurses, therapists and support personnel, including psychiatrists and a chaplain staff the center. This team is dedicated to meeting the challenges of burn treatment and recovery, by applying the most advanced technology and treatment methods possible. Often following a burn injury, members of the patient's family have been made homeless by the destruction of their family home by fire. Working with local agencies such as the Red Cross, the burn center provides assistance to those family members, as well.

EDUCATION

The Burn Surgery fellowship consists of an intense one-year educational curriculum, including research, clinical and operative opportunities.

The division also hosts a critical care educational podcast called "ICU Rounds," an educational tool to teach the fundamentals of critical care to physicians, nurses and students. More than 80

lectures are available on demand. Students from around the world have downloaded more than three million lectures.

Dr. Guy oversees a growing relationship between the United States Military, branch of the Army and Vanderbilt University Hospital. We are pleased to offer educational opportunities to military personnel after completing deployments. We work

primarily with soldiers from Ft. Campbell and Ft. Bragg, in the 86th Combat Support Hospital, Special Forces (USASOC), and Physician Assistant Students in the Interservice Physician Assistant Program.

The Burn Center also provides clinical rotations in relation to pre-hospital burn care to the Columbia State Paramedic Program care.





FACULTY

Jeffrey S. Guy, M.D., M.Sc.,
M.M.H.C., F.A.C.S.
Associate Professor and Chief

Surgery Faculty

M. Dorothy Fogerty, M.D.,
M.P.H., F.A.C.S.

Anesthesia Faculty

Arna Banerjee, M.D.

Pratik Pandharipande, M.D.

Clifford L. Parmley, M.D., J.D.

Nahel Saied, M.D.

Lisa Weavind, M.D. (MBBCh)

COMMUNITY OUTREACH

Camp Hope is a nonprofit organization run by staff members of Vanderbilt University Medical Center. Nurses, physicians, occupational/physical therapists, respiratory therapists and adult burn survivors collaborate to promote a week of physical and emotional healing. Camp Hope educates and encourages children who are overcoming unthinkable obstacles. Every year, area children have the opportunity to attend our camp, where they can learn and grow in a safe, accepting environment. There is no charge to the children attending the camp as expenses are covered by fundraisers and contributions.

Our faculty are engaged in outreach education to numerous pre-hospital educational programs. Dr. Guy is international associate medical director for the Pre-hospital Trauma Life Support Program (PHTLS). This program is endorsed by the American College of Surgeons and sponsored by the National Association of Emergency Medical Technicians. PHTLS is taught in 50 countries and teaches pre-hospital providers in the early pre-hospital emergency care of victims of burns, as well as traumatic injuries. Guy provides such lectures to providers locally, and is the medical director for the paramedic training program and Columbia State Community College.

The Department of Pediatric Surgery is committed to providing and promoting excellence in the surgical care of infants and children at the Monroe Carell Jr. Children's Hospital at Vanderbilt. Our comprehensive care extends from fetal patients to young adults, where we strive for excellence in patient care, clinical and basic laboratory research, and the education of students, residents and fellows.



CLINICAL PROGRAMS

The Monroe Carell Jr. Children's Hospital at Vanderbilt has been named as one of the top hospitals by *U.S. News & World Report*. With a \$30 million expansion to be completed in the spring of 2012, Vanderbilt Children's Hospital (VCH) will become one of the largest children's hospitals in the country. Our Department has also expanded to an 11-member faculty, providing a broad spectrum of general and thoracic surgical care to infants, children and adolescents. The ECMO service at VCH remains one of the busiest programs in the country, having provided life-saving care for more than 700 infants and children. Recently, we also initiated a daVinci robotic surgical program for general and thoracic procedures.

ACCOMPLISHMENTS

- The Pediatric Surgery Residency Program received a five-year accreditation from the Residency Review Committee.
- Dai H. Chung, M.D., was appointed chairman of Pediatric Surgery July 1, 2011. In 2010, he was named the Janie Robinson & John Moore Lee Endowed Chair in Pediatric Surgery, and was also elected president of the Society of University Surgeons that same year. He was recently awarded research grant funding from Rally Foundation for Cancer Research for his studies in neuroblastoma. He is also an Associate Program Director on a recently funded NIH T32 training grant in pediatric hematology and oncology at Vanderbilt.
- Wallace W. "Skip" Neblett, M.D., received the 2010 Robert S. McCleery Master Teacher Award, after leading Pediatric Surgery at Vanderbilt for nearly 30 years.
- James O'Neill, M.D., received the prestigious 2011 Arnold M. Salzberg Education and Mentorship Award for lifetime achievement in surgical education from the Surgical Section of the American Academy of Pediatrics.
- Harold "Bo" Lovvorn, M.D., was awarded an R21 grant from the National Institute of Health for his study, 'Molecular analysis of racial disparities in Wilms' tumor.'
- Erik Hansen, M.D., was appointed associate program director for International Residency Training. He currently trains pediatric surgeons at Kijabe Hospital in Kenya as well as Vanderbilt surgical trainees who rotate in Kenya.

RESEARCH

Research has been the most significant area of growth for the Department of Pediatric Surgery during the past year. Several of our faculty members are engaged in active research projects that span cell signaling studies in pediatric solid tumors, molecular analysis of racial disparities in Wilm's tumor, bioinformatics and developing patient portal

technologies, and clinical outcomes trials. Our investigators actively interact with collaborators from other departments such as Cancer Biology, Cell & Development Biology, Biomedical Engineering, and Bioinformatics. Multiple active grants are supported by the NIH (R01, R00, R21) and Rally Foundation for Cancer Research.

EDUCATION

The Department provides a fully accredited ACGME residency training program in pediatric surgery. One resident, among highly competitive candidates, is matched each year for the two-year fellowship. The Vanderbilt Pediatric Surgery Residency Program is relatively new in its 5th year of existence but founded in the same tradition of rigorous, thorough training that is the heart of our 80-year history of achievement as an institution dedicated to excellence in research and education for the improvement of patient care. Our new program is simply one of many steps we are taking to match the benefits of specialization to the healthcare needs of pediatric patients. Our program received a five-year accreditation renewal from the ACGME

Residency Review Committee in 2010.

Our department and hospital offer an excellent opportunity for the clinical and academic training of future pediatric surgeons. These future surgeons will develop unique expertise in the clinical approach to the challenges of performing surgery on children, as well as a critical and analytical approach to the evidence-based practice of pediatric surgery. The training program includes participation in teaching conferences and leadership in multidisciplinary care. Elective rotations for the residents include pediatric urology and neonatology. In the second year, emphasis is on professional development in the areas of administration and leadership of the entire surgical house staff.

FACULTY

Dai H. Chung, M.D.
Professor and Chairman

Martin Blakely, M.D., M.P.H.

Erik N. Hansen, M.D., M.P.H.

Gretchen P. Jackson, M.D., Ph.D.

Harold "Bo" Lovvorn, III, M.D.

Walter M. Morgan, III, M.D.

Stephen E. Morrow, M.D.

Wallace W. "Skip" Neblett, M.D.

James A. O'Neill, Jr., M.D.

John B. Pietsch, M.D.

Thomas Rauth, M.D., M.P.H.

RESEARCH

Kwang Kim, Ph.D.

Jingbo Qiao, Ph.D.



The Department of Plastic Surgery is nationally recognized for the strength of its training program for Plastic Surgical Residents. This is primarily based upon the extremely broad and deep experience that the residents are exposed to by our highly renowned faculty members. All of the subdivisions within the broad spectrum of Plastic Surgery Practice are well represented at Vanderbilt, including Craniofacial Surgery, Microvascular Surgery, Hand Surgery, Reconstructive Surgery in the broadest sense, including defects of the head and neck, trunk and extremities, Pediatric Plastic Surgery, including repair of clefts and other facial and body deformities, and Aesthetic or Cosmetic Plastic Surgery.

RESEARCH

Through NIH funding, the department has worked collaboratively with others to compare and contrast proteomic profiles between a strain of mice that exhibits regenerative features following skin injury with wild type mice that exhibit the undesirable features of scarring and wound contracture. This research may lead to the development of protein markers as therapeutic agents to enhance wound healing in human patients.

Current research on excised wound samples are enabling the development of prognostic laboratory markers that can indicate the likelihood of successful treatment based on each patient's individual proteomic readout. This line of investigation has the potential to personalize and improve the standard of wound care beyond mere visual assessment.

PATIENT CARE

The members of the Plastic Surgery faculty work both independently and in conjunction with many other Surgical Services, including Otolaryngology, General Surgery, Surgical Oncology, Orthopedic Surgery, Urologic Surgery, Gynecology, Thoracic Surgery and Neurologi-

cal Surgery. Through our faculty's comprehensive expertise, we can offer our patients both management of complex reconstructive problems, as well as routine plastic surgical care. We continually strive to improve the quality of our patients' lives through the application of science, surgical skill and compassion.



ACCOMPLISHMENTS

- R. Bruce Shack, M.D., served as President of the Southern Medical Association in 2010.
- Stephane A. Braun, M.D., returned to Vanderbilt after serving as program director of plastic surgery residency at Albany Medical College, New York.
- Kevin Kelly, M.D.
President, Board of Trustees; Member, Nominating Committee, American Society of Maxillofacial Surgeons
Member, Annual Meeting Council; Member, Corporate Leadership Council, American Society of Plastic Surgeons and American Society of Maxillofacial Surgeons
Member, Instructional Course Committee; Member, Program Committee Profile, American Society of Plastic Surgeons and Plastic Surgery Educational Foundation
Member, Educational Committee of American Society of Maxillofacial Surgeons
Guest Lectures: National Conference of American Society of Plastic Surgery Nurses, Denver; National Foundation of Facial Reconstruction, Atlanta; National Conference of Neonatal Nursing, Nashville
- Wesley P. Thayer, M.D., Ph.D.
Member, American Society of Plastic Surgeons
Fellow, American College of Surgeons
Delivered a series of lectures on hand surgery at the Komfo Anokye Teaching Hospital in Kumasi, Ghana. While there, he also performed more than 40 operative procedures on patients suffering primarily from burn scars.
- J. Jason Wendel, M.D.
Member, American Society of Breast Surgeons
Member, American Association of Plastic Surgeons
Serves as site Principal Investigator on multi-institutional study on Mastectomy Reconstruction Outcomes Consortium (MROC).

EDUCATION

The Department of Plastic Surgery operates an independent residency program in Plastic Surgery, enabling our residents to complete training in General Surgery before beginning our accredited three year residency program.

The Residents rotate through a variety of services to obtain the broadest possible exposure to Plastic Surgery, including at Vanderbilt University Hospital, The Vanderbilt Center for

Cosmetic Plastic Surgery, the Monroe Carell Jr. Children's Hospital at Vanderbilt, The VA Hospital and Baptist Hospital.

The department participates annually in the First Year Medical Student Class, "Introduction to Clinical Medicine and Professionalism." This group typically consists of 10–14 students who shadow us in both the operating rooms and plastic surgery clinics. We also have several plenary sessions during the semester

FACULTY

R. Bruce Shack, M.D.
Professor and Chairman

Stephane A. Braun, M.D.

Kevin F. Hagan, M.D.

Kevin Kelly, M.D., D.D.S.

James J. Madden, Jr., M.D.

J. Blair Summitt, M.D.

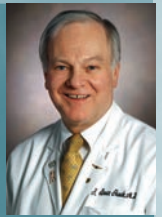
Wesley P. Thayer, M.D., Ph.D.

J. Jason Wendel, M.D.

Marcia Spear, D.N.P., ACNP-BC,
CWS, CPSN

RESEARCH

Lillian B. Nanney, Ph.D.



where students offer presentations on a variety of plastic surgery topics covering the entire gamut of the broad specialty. We participate in the Third Year Surgery Clerkship with several students rotating through our service on a continuing basis, and we offer a Fourth Year Medical Student Elective which is frequently utilized. Finally, we are proud to have visiting students from all across the country and around the world who choose to spend time with us, as well.

The Department of Cardiac Surgery is dedicated to providing the most innovative surgical procedures that are safe, state-of-the-art and of the highest quality. As a result, our surgical outcomes were recently ranked third best in the country. We are recognized nationally as a pioneer in “hybrid” coronary artery revascularization, which is a novel approach that teams cardiac surgeons with interventional cardiologists. Our program is also renowned as a leader in congenital and acquired valvular heart disease, minimally invasive cardiac surgical techniques and cardiac transplantation.

At the Vanderbilt Heart and Vascular Institute, our patients benefit from experienced doctors who collaborate to determine the most appropriate care for each individual. Our cardiovascular surgeons work with specialists in all areas of cardiovascular disease to provide the most comprehensive treatment plans.



ACCOMPLISHMENTS

The Department of Cardiac Surgery was ranked third in the nation for clinical outcomes, according to the University HealthSystem Consortium (UHC). The UHC, formed in 1984, is an alliance of 112 academic medical centers and 256 of their affiliated hospitals representing approximately 90 percent of the nation’s non-profit academic medical centers.



RESEARCH

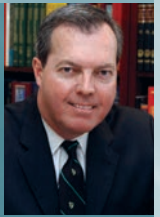
The department is actively involved in clinical research that will discover and define new, better and, ultimately, the best ways to care for cardiac patients. We understand the importance of incorporating our direct observations with patients in the clinic with research conducted in the lab. These very real patient experiences are the basis for meaningful research that will ultimately make its way back to the clinic in the way of improved patient care and treatments. Some of our current investigations include the study of new methods of performing coronary bypass surgery, new approaches for mitral and aortic valve surgery, a combined “hybrid” approach for coronary artery

disease, refined and new minimally invasive techniques for mitral, aortic and adult congenital heart disease, and new methods of surgically treating congenital heart defects. We also maintain a national presence in seminal clinical trials. For one such trial, the department of Cardiac Surgery was chosen as only one of 15 major academic centers involved in the first NIH observational trial for hybrid coronary revascularization — the combination of coronary stenting and bypass surgery. Similarly, Vanderbilt was chosen to be part of the first U.S. trial of the CoreValve® transcatheter aortic-valve system (Medtronic, Minneapolis, MN.) We are committed to remaining in the forefront of such important patient research.

FACULTY

John G. Byrne, M.D.

William S. Stoney Professor
and Chairman



Tarek S. Absi, M.D.

Rashid M. Ahmad, M.D.

Jorge M. Balaguer, M.D.

Stephen K. Ball, M.D.

Steven J. Hoff, M.D.

Betty S. Kim, M.D.

Marzia Leacche, M.D.

Ricardo Levin, M.D.

Simon Maltais, M.D.

Michael Petracek, M.D.

EDUCATION

Education is one of our core values. We are committed to training the next generation of cardiac surgeons through an ACGME-approved cardiothoracic (CT) training program. In the future, we will require an integrated six-year CT residency program, a paradigm which has been successful at a number of academic centers through the U.S. The integrated six-year CT program ideally would integrate general surgery, cardiology, vascular surgery and cardiac surgery.

The Division of Pediatric Cardiac Surgery The pediatric cardiac surgery program at Monroe Carell Jr. Children's Hospital at Vanderbilt is a regional center of clinical excellence, performing more than 500 operations each year. The Vanderbilt Children's heart program was ranked 26th in the nation by *U.S. News and World Report* in 2010, and was designated as one of 15 centers nationwide to be certified as a pediatric heart transplant center of excellence by OptumHealth Clinical Sciences Institute. We participate in several, national quality initiatives, including the Society of Thoracic Surgeons (STS) national data submission. Based on the strength of our database initiative, Vanderbilt is a pilot site for the development of the AAC Impact cardiology database.

RESEARCH

An understanding of the genetics of congenital heart disease will unlock pathways toward tomorrow's treatment strategies. Here at Vanderbilt, we have the rare opportunity and obligation to achieve this understanding through our access to genetic material derived from surgeries. Access to such tissue, coupled with Vanderbilt's advanced information systems and the Vanderbilt BioVU library of genetic material, has enabled us to embark on a project to develop a comprehensive library of pediatric cardiac tissue specimens from the full spectrum of congenital cardiac defects.



INNOVATION

The Vanderbilt Children's heart failure and mechanical ventricular assist device (VAD) program expanded in 2010 to include the first Berlin Heart implantation in Tennessee, as well as paracorporeal VAD device placement in larger individuals. This brings our pediatric heart transplant and VAD program into further national prominence.

PATIENT CARE

Patients with complex congenital heart defects, many of whom were formerly sent out of state for treatment, make up a significant portion of our recent growth. (Annual clinical volume has increased 4.5 percent, as has the complexity of illness.) Our dedicated pediatric cardiac intensive care unit was expanded from 12 to 18 beds, and an expansion at the Children's Hospital, further developing the cardiac surgery space, is underway.



ACCOMPLISHMENTS

- David P. Bichell, M.D., presented “Art and Surgery” at the 31st Annual Meeting of The American Academy of Cardiovascular Perfusion (AACP), Nashville, TN.
- David P. Bichell, M.D., presented “From Basic Science to Clinical Practice,” at the Italian Society of Pediatric Cardiac Surgery Symposium, Borgo di Tragliata, Rome, Italy.
- Alexandros N. Karavas, M.D., resident, Kelly Fleming, nurse practitioner, Catrina Bledsoe, nurse practitioner, and David P. Bichell, M.D., presented “A Medium-Term Venous Access Alternative in Infants undergoing Congenital Heart Surgery,” at the 59th International Congress of The European Society for Cardiovascular Surgery, Izmir, Turkey.

FACULTY

David P. Bichell, M.D.
Professor and Chief

Karla Christian, M.D.
Bret A. Mettler, M.D.



EDUCATION

Though recent changes in medical education have actually limited exposure to congenital cardiac surgery, we remain committed to fostering early and meaningful exposure to the field. Our EMPHASIS program enables medical students to enroll in an elective rotation in the pediatric cardiac program. These students observe and participate in open heart surgery, and also spend time with subspecialists in pediatric cardiac echocardiography, pediatric interventional cardiology, and the combined cardiology/cardiac surgery weekly conference.

Cardiothoracic residents, in their second year of training, spend three months as rotating residents on the pediatric cardiac surgery service at the Monroe Carell Jr. Children’s Hospital at Vanderbilt. And subspecialty rotation is also available in the final year of residency. Residents participate in complex cardiac procedures on infants, children and adults with congenital heart defects. Training also focuses on pre- and post-operative care, ICU management and weekly conferences. Opportunities also exist in organizing, writing and submitting manuscripts for publication.

We also provide undergraduate students, high school students and international students opportunities for exposure to the field through rotations and programs, including the Young Scientist Training Program (YSTP).

The Department of Thoracic Surgery is recognized nationally and internationally for its expertise in treating simple and complex thoracic conditions, including lung cancer and esophageal cancer, esophageal diseases, pulmonary metastases, malignant pleural diseases and pleural effusion, other congenital and acquired chest diseases, as well as the management of lung failure, including lung volume reduction surgery (LVRS) and lung transplantation. The department offers patients both the science and compassion needed to manage complex and reoperative conditions of the lung, esophagus, trachea and chest wall, as well as palliative procedures such as stents, lasers and minimally invasive techniques — all with the goal of improving quality of life.

LUNG TRANSPLANTS

We experienced tremendous growth and success in 2009 and 2010, recently performing a milestone 300th lung transplant, as well as the surpassing the national average in both graft and patient survival, according to the Scientific Registry of Transplant Recipients (SRTR). One such dramatic success occurred over the July 4th weekend in 2010, when our team performed three consecutive bilateral lung transplantations. We credit this to a unique, collaborative and multidisciplinary approach that enables us to provide patients with a broad spectrum of care of end-stage lung diseases.

RESEARCH

We continue to be actively engaged in clinical trials and translational research with the Vanderbilt-Ingram Cancer Center, the American College of Surgeons Oncology Group, and the Eastern Cooperative Oncology Group. The mission of the Thoracic Surgery Lung Cancer Research Program is to improve the accuracy of diagnosis of lung cancer. Recently, original work has been presented at the Society of Thoracic Surgeons, and the Southern Thoracic Surgical Association (STSA).





FACULTY

Joe B. (Bill) Putnam, Jr., M.D.
Ingram Professor and Chairman

Eric L. Grogan, M.D., M.P.H.

Eric S. Lambright, M.D.

Jonathan C. Nesbitt, M.D.



RESEARCH

Melinda Aldrich, Ph.D.

ACCOMPLISHMENTS

- The Department of Thoracic Surgery Clinic received the 2010 5-Star Award for Surgical Specialty Services.
- Joe B. (Bill) Putnam, Jr., M.D., received the 5-Star Award, and was ranked Top Scoring Physician by the Vanderbilt Medical Group – Surgical Specialty Services for Overall Quality of Doctor Care.
- Eric S. Lambright, M.D. received the 5-Star Award.
- Joe B. (Bill) Putnam, Jr., M.D.
Served as Chair of the Thoracic Committee of the American College of Surgeons Oncology Group/National Cancer Institute
Elected to Commission on Cancer, American College of Surgeons
Visiting Professorships: Memorial Medical Center Grand Rounds, Savannah, GA; University of Massachusetts Grand Rounds, Worcester, MA; Allegheny General Hospital
- Eric S. Lambright, M.D.
Thoracic Surgery Foundation for Research and Education (TSFRE)
Brandeis Course Scholarship Recipient
- Jonathan C. Nesbitt, M.D.
Board Member, Juvenile Diabetes Research Foundation
Awarded GIVME Education grant; Covidien Simulation grant
- Eric L. Grogan, M.D., received a Vanderbilt Physician Scientist Development (VPSD) program grant to study “Predicting Lung Cancer with a Serum Protein Test.” He also was awarded a Vanderbilt Lung SPORE Pilot Grant to study “Biodistribution of ¹¹¹In-DOTATATE observed during thoracoscopic resection of indeterminate lung nodules.”
- Melinda Aldrich, Ph.D., M.P.H., joined the department in October 2010 as assistant professor, with a joint appointment in the division of Epidemiology.

EDUCATION

The departments of Thoracic Surgery and Cardiac Surgery provide a fully-accredited ACGME residency education program in all aspects of adult cardiac surgery, pediatric cardiac surgery, and general thoracic surgery – leading to certification by the American Board of Thoracic Surgery. Two residents are selected each year for the three-year program. In 2010, the program was accredited for five years with no citations from the Residency Review Committee in Thoracic Surgery, ACGME. We evaluate resident skills using a web-based Assessment of Operative Skills to ensure proficiency in coronary revascularization, aortic valve replacement, mitral valve repair and replacement, anatomic pulmonary resection, esophagectomy and endoscopy. We also jointly host the Annual Rollin A. Daniel, M.D., Jr., Lecture.

The department has also developed an innovative Cardiothoracic Surgery Simulation Program for Improving Surgical Outcomes to provide medical students and residents a surrealistic approach to the instruction of basic and highly refined surgical technical skills for all levels of dexterity. (See main feature on Education – Shaping the Future.)

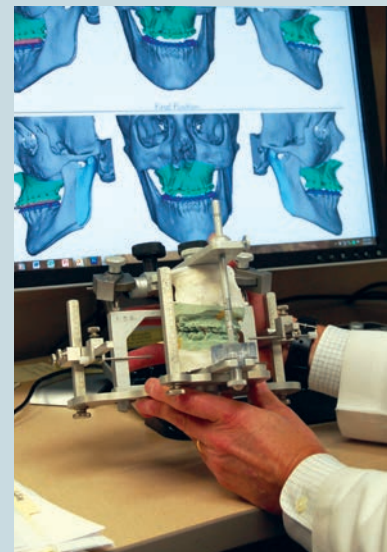
The Department of Oral and Maxillofacial Surgery is a clinically oriented department whose small but diverse faculty provides a comprehensive spectrum of oral and maxillofacial surgical services to children and adults. As a resource for oral and maxillofacial surgical care in middle Tennessee, comprehensive surgical services are provided for the management of an array of congenital and acquired facial deformities, obstructive sleep apnea, secondary clefts deformity, lesions of the oral/facial region, facial trauma, post-traumatic deformities and facial pain. The oral and maxillofacial surgical service also provides comprehensive routine outpatient surgical services. In 2008, the Vanderbilt oral and maxillofacial surgery clinic became an official remote anesthesia site providing comprehensive anesthesia services for adolescent and adult patients undergoing routine office-based surgical procedures. Routine out-patient surgical services are also provided at the Nashville Interfaith Dental Clinic.

DIVISION OF DENTISTRY

The Division of Dentistry provides comprehensive oral health services to the preadolescent child and adult in a community practice setting. Oral health services provided by the Division of Dentistry and the Department of Oral and Maxillofacial Surgery are pivotal to optimizing oral health prior to cardiac surgery, total joint arthroplasty, head and neck radiation therapy, solid organ transplantation and bone marrow transplantation. The availability of comprehensive oral health care services at the Village at Vanderbilt is a popular alternative for Vanderbilt University employees who value the convenience of on-campus general dental services.

DIVISION OF ORTHODONTICS

The Division of Orthodontics provides essential services at the Village at Vanderbilt and Monroe Carell Jr. Children's Hospital at Vanderbilt, including routine orthodontic care for children of all ages and adults, management of cleft lip and palate, and both non-syndromic and syndromic craniofacial deformities of children and adolescents. In 2011 orthodontic services have made a very important expansion to include nasoalveolar molding in the newborn cleft patient. With limited availability in Tennessee, this service will be a very valuable adjunct in the comprehensive management of cleft deformities. The Division of Orthodontics, in close collaboration with the Vanderbilt Sleep Disorders Clinic, provides essential services in the non-surgical management of obstructive sleep apnea.



RESEARCH

Research interests are currently focused on the prospective reliability of virtual surgical planning in the correction of skeletal jaw deformities. Additional planned research will study the role of short implants in reconstruction of the atrophic maxilla and the prospective evaluation of bone loss associated with implants utilizing the "laser-lok" implant surface modification.

ACCOMPLISHMENTS

- Samuel J. McKenna, D.D.S., M.D., received the Robert S. McCleery Master Teacher Award.
- Samuel J. McKenna, D.D.S., M.D., and Steven R. Evelhoch, M.D., D.D.S., were keynote speakers at the 2011 annual meeting of the Colombian Association of Oral and Maxillofacial Surgeons.



EDUCATION

The Department provides a fully accredited residency program in oral and maxillofacial surgery for residents who have completed four years of dental school and earned either the D.D.S. or D.M.D. degree. The program offers a six-year M.D. program and a four-year non-M.D. track. The six-year program is one of the original “dual-degree” residency programs in the United States.

The residency program includes access to lectures, seminars, workshops, gross anatomy dissections, surgical skills laboratory exercises, and practical exercises in the Center for Experiential Learning and Assessment. In the 2009-2010 academic year, our residents saw nearly 8,000 patients in clinic and participated in more than 600 operating room procedures. And as part of our global health initiative,

we now offer a cleft/craniofacial rotation in Bogota, Colombia.

Residents actively present posters, and more than 90 percent of our graduates successfully pass the American Board of Oral and Maxillofacial Surgery oral certifying examination on the first attempt. In 2011, corporate support has been secured to fund resident participation in implant research. These funds will help offset the educational debt burden of the residents in the M.D.–OMS program.

The Division of Orthodontics orthodontic residency program will undergo important reconfiguration in 2011 with a reduction in enrollment to three residents per year, reduction in program length to 26 months, and the addition of a faculty member. Application will also require a master’s of science degree in the orthodontic program.

FACULTY

Oral and Maxillofacial Surgery

Samuel J. McKenna, D.D.S., M.D.
Professor and Chairman



Steven R. Evelhoch, M.D., D.D.S.

Steve G. Press, D.D.S.

Nashville VA Medical Center

Donna C. Walls, D.D.S., Chief

Adam Schaeffer, D.M.D., M.D.

Bret A. Mettler, M.D.

Division of Orthodontics

Marion Messersmith, D.D.S., M.S.D., Chief

Division of Dentistry

George A. Bare, Jr., D.M.D.

Julie W. Rezk, D.M.D.

INNOVATION

In 2011, the Vanderbilt Oral and Maxillofacial Surgery Clinic acquired the capability for on-site 3-D radiographic imaging of the maxillofacial region through cone beam CT technology. This technological advancement will enhance treatment planning, in particular for the patient who requires implant placement in the oral and maxillofacial region. 3-D imaging will provide important enhancements in maxillofacial imaging over traditional methods, as well as provide important research opportunities.

Vanderbilt Oral and Maxillofacial Surgery is at the forefront in computer-assisted surgical planning. Virtual surgery in the management of facial fractures and maxillofacial defects with the fabrication of patient specific implants is an important innovation. Computer-assisted surgical planning applied to the correction of skeletal facial deformities allows for precise surgical repositioning of facial structures.

The Department of Urologic Surgery and Division of Pediatric Urologic Surgery have developed a national reputation for innovative patient care, outstanding fellowship and residency training, and both basic and clinical research. We have one of the largest clinical faculties of any academic center in the country and national leaders in virtually every domain of urologic surgery. Both our adult and pediatric urology programs are ranked among the top 10 in the country, one of only a few departments nation-wide with this distinction.

RESEARCH

Clinicians in our department work alongside a cadre of extremely well-respected basic researchers to develop innovative translational research initiatives. Our program for research in healthcare outcomes and policy has rapidly achieved national prominence and provides mentorship and training for the clinical scientist.

INNOVATION

Recognition of the need for a personalized approach to medicine has long been a focus of urologic surgery and our departmental initiatives. The impact of treatment-related morbidity and the burden of urologic diseases on national healthcare expenditures mandate improved ability to select patients for appropriate treatments and to predict

outcomes. Image-guided targeted therapies, proteomic and genotypic profiling of tumors, and development of new biomarkers are important research endeavors in our department. Additionally, evaluation of healthcare outcomes and comparative treatment efficacies is a key component of our healthcare outcomes and policy initiatives.





ACCOMPLISHMENTS

- Vanderbilt University Hospital ranked among the top 10 in the country for urologic surgery by *U.S. News & World Report*.
- The Monroe Carell Jr. Children's Hospital at Vanderbilt ranked #6 for pediatric urology by *U.S. News & World Report*.
- Joseph A. Smith, Jr., M.D., received the Hugh Hampton Young Award from the American Urologic Association.
- Daniel A. Barocas, M.D., completed the Vanderbilt University Masters in Public Health; was awarded an additional year on the K-12 grant to investigate the role of oxidative stress in prostate carcinogenesis in obese and non-obese men; was named to the American Urological Association Hematuria Best Practice Statement Update Panel, and was elected to the Young Urologic Oncologists Executive Committee.
- Sam S. Chang, M.D., was promoted to professor of Urologic Surgery. He received the Gold Cystoscope Award by the American Urological Association.
- Peter E. Clark, M.D., was honored as the most outstanding reviewer for basic science by the *Journal of Urology*. He was also named associate section editor for the Investigative Urology Section of the *Journal of Urology*; Southeastern section representative to the AUA Foundation Research Council; co-chairman of the NCNN Guidelines Panel on Bladder Cancer; reviewer for AUA Foundation Research Scholars Program, and member of the AUA Guidelines Panel on Management of Superficial Bladder Cancer.
- Michael S. Cookson, M.D., was elected to membership in the American Association of Genitourinary Surgeons. He was also awarded Vanderbilt's Michael Rodriguez Award for Teaching Students, Residents and Fellows.
- Rodney Davis, M.D., performed surgery in Kenya and Uganda as part of a departmental service mission.
- Roger R. Dmochowski, M.D., was appointed patient safety officer for Surgery and Vanderbilt University Hospital. He is the associate

continued on next page

FACULTY

Joseph A. Smith, Jr., M.D.
Professor and Chairman
Urologic Surgery



Daniel A. Barocas, M.D.
Sam S. Chang, M.D.
Peter E. Clark, M.D.
Michael S. Cookson, M.D.
Rodney Davis, M.D.
Roger R. Dmochowski, M.D.
S. Duke Herrell, III, M.D.
Melissa Rae Kaufman, M.D., Ph.D.
Douglas F. Milam, M.D.
Todd M. Morgan, M.D.
Nicole L. Miller, M.D.
David F. Penson, M.D.
William Stuart Reynolds, M.D.

RESEARCH

Simon W. Hayward, M.D., Ph.D.
Robert J. Matusik, M.D., Ph.D.

John W. Brock, III, M.D.
Professor and Chief
Pediatric Urologic Surgery



Mark C. Adams, M.D.
Douglass B. Clayton, M.D.
John C. Pope, IV, M.D.
Stacy T. Tanaka, M.D.
John C. Thomas, M.D.

PATIENT CARE

Our department is dedicated to excellence in patient care. We have one of the highest volume surgical practices in the entire country and are committed to innovative surgical approaches, including robotics, image-guided surgery and minimally-invasive approaches. We are international leaders in the area of robotic urologic surgery with more than 3,000 robotic-assisted laparoscopic radical prostatectomies performed at Vanderbilt University Medical Center.



EDUCATION

We have accredited fellowships in the primary subspecialty areas of urology, including urologic oncology, minimally-invasive surgery and endourology, pediatric urology and female urology.

director of the International Consultation on Incontinence Research Society, and he received the Frank H. Boehm Award for Excellence in Teaching for contribution to continuing medical education.

- Simon W. Hayward, M.D., was selected president of the Society for Basic Urologic Research. He is principal investigator on two grants, one for the study of paracrine regulation of BPH pathogenesis, and the other which will focus on the role of PPAR-gamma agonists in prostatic and bladder function using in vivo and clinical population-based models.
- S. Duke Herrell, III, M.D., received the Best Research Award from the World Congress of Endourology and Robotics for his work in image-guided surgery.
- Robert J. Matusik, M.D., is principal investigator on two awarded grants: one to study control of prostate-specific gene expression, and the other on transgenic mouse models for prostate cancer.
- Nicole L. Miller, M.D., received the annual award from the *British Journal of Urology International* for the most outstanding scientific publication.
- David F. Penson, M.D., received the Best Reviewer Award from the *Journal of Urology*. He also was awarded a \$7.6 million grant from the Healthcare Research and Quality Agency for a study on Comparative Effectiveness Analysis of Surgery and Radiation for prostate cancer.
- John C. Pope, IV, M.D., was elected to the Society of Pediatric Urology; named program chair for the American Academy of Pediatrics, 2011, and was awarded an extension for 2011. He was promoted to professor of urologic surgery.
- Stacy T. Tanaka, M.D., received the Turner-Hazinski Research Award to fund her research; she also received the *Journal of Urology* Best Reviewer Award for pediatric urology articles.
- John C. Thomas, M.D., was named program chair for the Society for Fetal Urology, 2011.
- Residents Gregory Broughton, M.D., and Ian Thompson, M.D., traveled to Bukavu, Democratic Republic of Congo on a humanitarian surgical mission with Joseph A. Smith, Jr., M.D. As part of the department's commitment to service, they provided at Panzi Hospital surgical care to victims of sexual violence.

Affiliated Hospitals and Centers

VETERAN AFFAIRS TENNESSEE VALLEY HEALTHCARE SYSTEM

The Nashville VA Medical Center is one of two main campuses in the VA Tennessee Valley Healthcare System (TVHS), comprised of the Nashville and Alvin C. York Medical Centers, and nine outpatient clinics. The Nashville campus offers primary, secondary and tertiary care to veterans living in middle Tennessee and Kentucky. TVHS is affiliated with Vanderbilt University School of Medicine and Meharry Medical College, with active residency programs in all major medical and surgical specialties and sub-specialties. In addition, the Nashville campus supports a vigorous research program of over \$26 million annually. The Nashville campus serves as a VHA resource for solid organ and bone marrow transplants. A full range of surgical specialties exists, all fully integrated with the residency programs of the Vanderbilt University Medical Center. Rotations at the VA Medical Center represent a major component of the training experience of Vanderbilt residents.

TennesseeValley.VA.gov

ST. THOMAS HOSPITAL

St. Thomas Hospital is a 571-bed hospital, tertiary care and private-practice-based center that is noted for particular surgical expertise in gastrointestinal, vascular and cardiothoracic surgery. Vanderbilt University Medical Center General Surgery residents rotate through the General/Vascular Surgical Service, and participate in the surgery and care of urology, plastic surgery, renal transplant, gynecologic oncology and thoracic surgery patients.

SaintThomas.org

NASHVILLE GENERAL HOSPITAL

Nashville General Hospital is a 150-bed facility on the campus of Meharry Medical College. The hospital has a diverse patient population and is committed to serving those with significant health disparities and who reside in many underserved communities in Nashville. Through this alliance, students from both campuses share cross-cultural experiences through clerkships, residencies and fellowships. Collaborative efforts in research and training have resulted in more than \$100 million in grants.

mmc.edu

VANDERBILT-INGRAM CANCER CENTER

The Vanderbilt-Ingram Cancer Center (VICC) is a Comprehensive Cancer Center, as designated by the National Cancer Institute (NCI), one of only 40 nationwide and the only one in Tennessee that conducts research and cares for patients of all ages. Faculty from Surgical Sciences participate in nationally sponsored cancer research, including NCI's renowned Specialized Programs of Research Excellence (SPORE) grants in lung, breast and gastrointestinal cancer. Faculty also pursue cancer research through the Vanderbilt Physician Scientist Development (VPSD) Awards Program.

VICC.org

VANDERBILT TRANSPLANT CENTER

The Vanderbilt Transplant Center is a multidisciplinary alliance of transplant specialists in kidney, pancreas, combined kidney/pancreas heart, lung, liver, bone marrow and stem cell transplantation. Many of these specialties are fully integrated in the General Surgery residency and fellowship programs. The Vanderbilt Transplant Center is one of the largest and most respected in the Southeast with approximately 300 solid organ and 300 bone marrow transplants performed annually.

VanderbiltTransplantCenter.com

VANDERBILT DIGESTIVE DISEASE RESEARCH CENTER

The Digestive Disease Research Center (DDRC) is one of 16 Digestive Disease Research Centers supported by the National Institutes of Health. The center works to enhance basic research capabilities of investigators; attract new investigators from other fields of study; develop and implement vital training programs for physicians and surgeons in digestive disease research, and facilitate the transfer of basic research findings to the clinical area.

mc.Vanderbilt.edu/ddrc

VANDERBILT HEART AND VASCULAR INSTITUTE

At the Vanderbilt Heart and Vascular Institute (VHVI) a team of physicians provide the most comprehensive services in cardiology, cardiac surgery and vascular services in the region. Vanderbilt Heart is home to an exceptionally talented and experienced group of cardiovascular providers and staff. The Institute provides patients with the most advanced diagnostic tools, evidence-based therapies and opportunities to participate in innovative clinical trials.

VanderbiltHeart.com

VANDERBILT DIABETES CENTER

The Vanderbilt Diabetes Center provides complete treatment and prevention care for children and adults with diabetes. The center also conducts vital research in the field of diabetes (coordinated by the Diabetes Research and Training Center, www.mc.vanderbilt.edu/diabetes/drtc/) and trains health care providers, including one-to-two surgical residents each year through the Diabetes Fellowship Training program.

VanderbiltDiabetes.com

Vanderbilt also recently announced affiliation agreements with **NorthCrest Medical Center**, **Williamson Medical Center** and **Maury Regional Medical Center** to bring tertiary services associated with an academic medical center together with local community providers to lead and shape the delivery and quality of patient care for residents throughout Middle Tennessee.

VANDERBILT SECTION OF SURGICAL SCIENCES

**Congratulations to our faculty who were recognized by
America's Top Doctors and Best Doctors in America.**

BURN SURGERY

America's Top Doctors
Jeffrey Guy, M.D.

CARDIAC SURGERY

America's Top Doctors
John Byrne, M.D.
Best Doctors in America
John Byrne, M.D.
Michael Petracek, M.D.

PEDIATRIC CARDIAC SURGERY

America's Top Doctors
David Bichell, M.D.
Karla Christian, M.D.

GENERAL SURGERY

America's Top Doctors
Kenneth Sharp, M.D.
Paul Wise, M.D.
Best Doctors in America
Michael Holzman, M.D.
Willie Melvin, III, M.D.
William Nealon, M.D.
Kenneth Sharp, M.D.

**HEPATOBIILIARY SURGERY AND
TRANSPLANTATION**

Best Doctors in America
C. Wright Pinson, M.D.
Kelly Wright, Jr., M.D.

NEUROLOGICAL SURGERY

America's Top Doctors
Allen Sills, M.D.
Reid Thompson, M.D.
Best Doctors in America
Joseph Shun-Che Cheng, M.D.
Peter Konrad, M.D.
Matthew Pearson, M.D.
Reid Thompson, M.D.
Noel Tulipan, M.D.

PEDIATRIC SURGERY

America's Top Doctors
Walter Morgan, M.D.
Best Doctors in America
Dai H. Chung, M.D.
Harold Lovvorn, III, M.D.
Wallace Neblett, III, M.D.
John Pietsch, M.D.

PLASTIC SURGERY

America's Top Doctors
Kevin Hagen, M.D.
Kevin Kelly, M.D.
Best Doctors in America
Kevin Hagen, M.D.
Kevin Kelly, M.D.
Bruce Shack, M.D.

**SURGICAL ONCOLOGY AND
ENDOCRINE SURGERY**

America's Top Doctors
R. Daniel Beauchamp, M.D.
Mark Kelley, M.D.
Carmen Solorzano, M.D.
Best Doctors in America
R. Daniel Beauchamp, M.D. (*in
Cancer*)
Mark Kelley, M.D.
Nipun Merchant, M.D.
Carmen Solorzano, M.D.

THORACIC SURGERY

America's Top Doctors
Jonathan Nesbitt, M.D.
Joe B. (Bill) Putnam, Jr., M.D.
Best Doctors in America
Eric Lambricht, M.D.
Jonathan Nesbitt, M.D.
Joe B. (Bill) Putnam, Jr., M.D.

**TRAUMA AND SURGICAL
CRITICAL CARE**

Best Doctors in America
John Morris, Jr., M.D.

**UROLOGIC AND PEDIATRIC
UROLOGIC SURGERY**

America's Top Doctors
John W. Brock, III, M.D.
Sam Chang, M.D.
Michael Cookson, M.D.
Douglas Milam, M.D.
David Penson, M.D.
John Pope, M.D.
Joseph Smith, M.D.
Best Doctors in America
Mark Adam, M.D.
John W. Brock, III, M.D.
Sam Chang, M.D.
Peter Clark, M.D.
Michael Cookson, M.D.
Roger Dmochowski, M.D.
Duke Herrell, III, M.D.
Douglas Milam, M.D.
David Penson, M.D.
John Pope, M.D.
John Thomas, M.D.

VASCULAR SURGERY

America's Top Doctors
Jeffery Dattilo, M.D.
Colleen Brophy, M.D.
Thomas Naslund, M.D.
Best Doctors in America
Louis Garrard, M.D.
Thomas Naslund, M.D.

SECTION OF SURGICAL SCIENCES

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