By recruiting top talent into its eight specialty areas and focusing intently on a multidisciplinary approach to patient care, Duke Children’s Surgical Services has become a little engine that could – really could – bringing the highest level of personalized care to its patients, who come from near and far to get it.

“When we started, we were only nine people in seven specialties, and we’ve doubled our numbers to become a more ideal size to provide the highest quality care while still offering a navigable and personal environment for our patients,” says Jeffrey R. Marcus, MD, Associate Professor, Division of Plastic, Maxillofacial, and Oral Surgery, and Associate Vice Chair of Duke Children’s Surgical Services. “There is a point where you can become too large to maintain coordinated care and consistency in clinical protocols.”

Over the last few years, Duke Children’s Surgical Services has increased its programmatic offerings and now features well-established and recognized programs including the Cardiac Surgery Program and the Cleft and Craniofacial Center within Plastic Surgery, as well as newly enhanced services in other areas including Urology, General Surgery, Transplant, Neurosurgery, Otolaryngology, Orthopaedics, Pediatric Dentistry and Orthodontia. In the near future, the group will selectively expand its program through a partnership with WakeMed, taking Duke’s strong pediatric surgical services to Wake County and facilitating easier access for patients to the east.

“One of our goals as a group is to reduce the number of times sick children have to come to an operating room and optimize the outcomes at each intervention,” he says. “Sometimes it means coordinating more than one procedure at a time.”

Because our surgeons, anesthesia team, and nurses deal with many highly specialized conditions and procedures with unity, all members gain similar, extensive experience in these areas, he added. This serves to improve consistency, efficiency, and safety.

Multidisciplinary Care Benefits Patients

When a unique team of clinicians from several specialties get together to address patients’ needs in a comprehensive way, care can be streamlined and needs and issues addressed fully, problems are not likely to
Duke Surgery and Healthcare Reform

A fundamental element of recent healthcare reform legislation and policy is the need to dramatically realign and reallocate resources currently devoted to the delivery of healthcare services. This change will affect nearly every aspect of our current healthcare delivery system. The impact to academic medical centers will be especially challenging. A recent study by PricewaterhouseCoopers LLP indicated that 10 percent of total revenue could be cut due to external funding threats such as lower disproportionate payments for Medicaid and indigent patients and decreased indirect medical education funding.

Duke Surgery’s strong reputation, deservedly established over the past 75 years, will undoubtedly be a burden going forward. However, the real differentiating factors for our future success will be our focus on service, value, demonstrable quality, and efficiency. Duke Surgery is well-suited to adapt to these changes. The degree of our success will likely be influenced by our strategic focus and alignment with our Duke Medicine core values of patient quality and satisfaction, and excellence in our teaching and research missions.

Duke Children’s Surgical Services

“Children with brachial plexus injuries sustained at birth lost function when the nerves to the shoulder and arm became stretched or torn from the spinal cord. This causes a loss of arm function from mild weakness to a completely flail limb. Many of the patients improve without surgery, either through natural healing or physical therapy, and that is why a team approach is important and follow-up is crucial. Those who don’t get better with aggressive physical therapy may be considered for surgery— a decision to proceed with surgery is time-dependent and is based on several important factors related to a patient’s progress.”

Dr. Leversedge.

Duke Children’s Miracle Network to the Duke Department of Surgery to support pediatric surgery initiatives provided some of the funds to build the program about three years ago and funded specialized training for some of the therapists. Dr. Marcus and the Duke brachial plexus team later hosted a multidisciplinary visiting professorship by world experts in this condition from the University of Toronto’s Hospital for Sick Children. The oldest multidisciplinary program at Duke is the comprehensive Spina Bifida Clinic, which began in the early 1980s. Collaborators in the fields...
T
ough the number of women graduating from medical school has increased significantly over the years, until recently, the number of female medical school graduates applying to and entering surgery residencies had not kept pace. According to a study published in the Journal of the American College of Surgeons, “the difference between the percentage of women graduating from US medical schools and the percentage of women among [United States Medical Graduates] entering [General Surgery] training narrowed from 11% in 2000 to only 7% in 2005. This suggests that the gap between these two populations is closing with respect to gender distribution.”

Perhaps nowhere is this trend more evident than in Duke Surgery’s General Surgery Residency Training Program, where all six of this year’s chief residents are women.

“The number of women in surgery training is definitely growing, but first and foremost, I want to say that this is a great group of people, regardless of gender,” says John Migaly, MD, Assistant Professor, Division of Surgical Oncology and Program Director for Duke’s General Surgery Residency Training Program. “They are fantastic in and out of the operating room, because they juggle so many things and achieve success in all of them.”

The things they juggle include training in general surgery, performing high-level, field-advancing research; mothering children; being partners for husbands; and exhibiting commitment to surgical education, among many other pursuits.

Dr. Migaly says he believes some of their success as surgeons can be credited to their extraordinary ability to multi-task, while never compromising one pursuit in favor of another.

“They deal with conflict all the time in their lives, and deal with it well,” he says. “Somehow they don’t just hold it together, they do it well.”

Gender may have nothing to do with it – “we want the best people,” Dr. Migaly says – or it could have everything to do with it. Because women have more demands on them, in many cases, as mothers and professionals, juggling and doing it well is a sought-after characteristic.

A more widespread cultural acceptance of work-life balance may be another reason that more women feel they can achieve success in a field that used to be characterized by 120-hour workweeks that left little time for anything else.

“I think lifestyle considerations are playing a more important role in everyone’s decision-making process – for men and women and in other fields besides medicine,” says Dawn Effenbein, MD, a General Surgery Chief Resident. “People just focus more these days on life-work balance, and it’s more acceptable than ever to have that kind of focus. I still have concerns about how I will balance work and family, and I expect that will continue for the rest of my career. I think the second you stop being concerned about it, the balance has been thrown off.”

“Work-hour restrictions have made it more possible to visualize the work-life balance that previously discouraged many women from considering surgery as a profession. More men are interested in this balance as well, so these changes could improve quality of life for all surgeons in training,” says Shelley Hwang, MD, MPH, Professor, Division of Surgical Oncology.

In other surgical specialties, the same trend is at work. According to the American College of Surgeons study, in the field of Urology, for example, 13 percent of female US medical graduates entered the field in 2000. But by 2005, that number had jumped to 25 percent.

In Orthopaedic Surgery over the same time period, the percentage climbed from nine percent in 2000 to 13 percent in 2005. In Otolaryngology, the number went from 19 percent in 2000 to 30 percent in 2005, according to the study. The only field that saw a decline in the number of female US medical graduates over that time period was Neurosurgery.

According to the Association of Women Surgeons, a 1,700-member international organization dedicated to supporting women surgeons at various stages of their career through programs promoting professional growth and advancement, the number of female general surgeons has consistently increased over the past 30 years, from 3.6 percent in 1980 to 8.8 percent in 1995 and 13.6 percent in 2007.

According to the Accreditation Council for Graduate Medical Education (ACGME) Data Resource Book for 2011-2012, which provides data on programs, institutions, and physicians in graduate medical education, the population in surgery training programs overall is 33 percent female and 65 percent male, with seven percent unreported. Surgical specialties, including Ophthalmology, Vascular Surgery, and Colorectal Surgery are included in the top 15 specialties characterized by largest percentages of females: Women comprise 40 percent of Vascular Surgery trainees, 33 percent of Colorectal trainees, 33 percent of Otolaryngology trainees and 23 percent of Urology trainees, by the ACGME’s program description parameters.

In Duke Surgery, the numbers are even more favorable to women. Over 29 percent of Urology residents are women; 41.67 percent of Otolaryngology residents are women, and 26 percent of Neurosurgery residents are women – perhaps the most astounding statistic, as the ACGME reports that in the country as a whole, only 11 percent of Neurosurgery trainees are women.

Duke Neurosurgery Chief Resident Betsy Grunch, MD, chose the field for an intensely personal reason; her mother, a police officer, was badly injured in a line-of-duty car accident in 1994, leaving her a quadriplegic.

“After that happened, I knew I wanted to go into the neurosciences and neuro-trauma,” she says. “I really wanted to help people with spinal cord injuries.”

Despite the strength of her personal mission, she encountered those along the way who tried to dissuade her from pursuing the very male-dominated career path. When she was looking into residency training programs, she wanted a place that fostered diversity and was accepting of women in Neurosurgery – a place where other female trainees had thrived. She found that at Duke.

“When I came for my interview, I had no reservations about this program,” she says. “I didn’t feel different from the other applicants. At Duke, there is a feeling that you can grow no matter what your sex or ethnicity.”

Within the Division of Neurosurgery, there is now one female attending neurosurgeon at Duke – Carrie R. Muh, MD, Assistant Professor, Division of Neurosurgery, and three female residents in the classes that follow Dr. Grunch. Dr. Grunch will be graduating this summer and returning to her hometown to join a neurosurgery practice and be closer to her mother, who has inspired her not just because of her injury, but by her example.

“My mother was a police officer, a very male-dominated field, and she was the first female member of the Honor Guard and the first female member of the Dive Team, which overseas rescues at a lake in my hometown,” she says. Dr. Grunch’s mother received a medal of valor and the Purple Heart after her accident. “She always taught me that I could do anything I wanted to do.”

Despite all the positive news about surgery becoming a field that is more open to women, there are some who worry that not enough progress has been made. An August 2012 article in the Bulletin of the American College of Surgeons, written by four female surgery residents, said that although the number of female general surgery residents has increased, women still face barriers to achieving leadership positions and gender bias is still rampant.

Leaders like Duke Hospital’s Chief Medical Officer Lisa Clark Pickett, MD, and Assistant Professor, Division of Trauma and Critical Care, and Acute Care Surgery, remember a time when the field was overwhelmingly male.

“Nineteen years ago, when I started, it would’ve been unthinkable to imagine a time when there would be so many women in the field, and we would be listening to grand rounds given by Patricia Numann, MD, one of the only two female presidents of the American College of Surgeons,” she says. “The shift to more women in surgery has been a gradual one, but I hope I am seen as a mentor not only to women but also to men.”

Perhaps in the near future, gender won’t be discussed as much or won’t be the topic of articles such as this, because it simply won’t matter anymore. Maybe in some ways, it already doesn’t. The field

Continued on page 6
of urology, neurosurgery, orthopaedics and pediatrics, along with caregivers from physical therapy, orthotics, social work, and nutrition, care for over 500 patients with spina bifida and other spinal cord disorders. Eight surgeons from Duke Children’s Surgical Services and an equal number of their mid-level providers are regularly involved in the care of these patients; other providers within Duke Children’s Surgical Services often see these patients for consultation in their respective disciplines.

“Spina bifida is the most common permanently disabling birth defect, and 50 years ago, survival to age two was under 20 percent,” says John S. Wiener, MD, Associate Professor, Division of Urology. “Today, it’s close to 95 percent because of advances in neurosurgical and urologic care.”

Most spina bifida patients have surgery within a few days after birth to close open spinal cord defects and to address fluid build-up in the brain and require shunt placement to drain that fluid into the abdomen. Shunt placement requires lifelong follow-up. Orthopaedics is involved with most patients who have lower extremity paralysis or defects, as well as urology.

Ninety-five percent of spina bifida patients will have alteration of their bladder function which can lead to incontinence, urinary tract infection, kidney injury and failure, says Dr. Wiener. That’s where urology comes in.

“Since survival is no longer a major concern, what we’re doing is trying to help them live as normal a life as possible,” he says. Patients typically come once or twice a year to the clinic for follow-up, and they see all four disciplines on the same day. The team then meets to discuss each patient.

Duke is a leader in the spina bifida field. Dr. Wiener is a principal investigator for the Centers for Disease Control and Prevention in the National Spina Bifida Patient Registry pilot project. The Duke clinic is one of 19 spina bifida clinics in the nation chosen to participate in the registry and has enrolled over 140 patients in the first year.

Because of Duke Children’s hospital-within-a-hospital structure, the spina bifida clinic and other multidisciplinary programs are not limited to individuals under a certain age and are able to follow patients from birth well into adulthood. This unique approach prevents the problems of transition from pediatric care to adult care that can become a major issue at other clinics. In fact, one-third of the patients at the Duke Comprehensive Spina Bifida Clinic are adults, and many have been coming to the clinic since the 1980s.

Pediatric Urology is involved in several other multidisciplinary programs as well, including the pediatric kidney stone clinic with colleagues in pediatric nephrology and pediatric endocrinology, allowing optimal surgical and medical management and prevention of kidney stones.

Vascular malformations can range from simple skin blood vessel tumors called hemangiomas, to complex systemic disfiguring or even life-threatening malformations involving arteries, veins, and the lymphatic system. Many of these conditions affect infants and children and can continue through adulthood. The multidisciplinary vascular malformation team at Duke was established and led by Cynthia E. K. Shortell, MD, Professor and Chief, Division of Vascular Surgery. Eileen M. Raynor, MD, Assistant Professor, Division of Radiology. This group is now composed of over 20 surgical, medical, and radiology specialists, including many Duke Children’s Surgical Services members. The tremendous growth of this program to become one of the finest of its type in the country is a testament to the advantages for patient care provided through tightly coordinated multidisciplinary collaboration.

“Some people view the free-standing children’s hospital model to be ideal,” says Dr. Marcus. “However, a hospital-within-hospital format allows national experts in condition-specific problems to work seamlessly whether their majority practice involves adults or children. That type of program development is exceedingly difficult in a free-standing children’s hospital.”

In the past couple of years, the Duke Children’s Surgical Services faculty has made great strides in raising the prominence and visibility of the program, contributing meaningfully to research in the field, and providing excellent care to our patients. Some of their achievements include:

Martha Ann Keels, DDS, PhD, Chief of Pediatric Dentistry, was awarded the first National Institute of Dental and Craniofacial Research (NIDCR) grant to study dental caries risk assessment prospectively in children. This grant funded a multi-center study with The University of Iowa and Indiana University and was awarded a Presidential Award this past fall. Dr. Keels was also awarded the American Academy of Pediatrics Award for Health for her contributions to improving children’s oral health on the national level, and was named Chair of Council of Scientific Affairs for the American Academy of Pediatric Dentistry.

Kerry A. Dove, MD, MDIC, Medical Instructor, Department of Surgery, was selected by the American Academy of Pediatric Dentistry to represent North Carolina as its public policy advocate on Capitol Hill in Washington, DC.

The Pediatric Urology Program has developed the First Robotic Surgery Program in Pediatric Urology in the state.

Rajeel Chaudhry, MD, a resident research fellow under the mentorship of Sherry S. Ross, MD, Assistant Professor, Division of Urology, and C. Sewd, MD, PhD, Associate Professor, Department of Pediatrics, won third prize in Basic Science Research at American Academy of Pediatrics, Section of Urology meeting for work in immune responses to urinary tract infections in an animal neuromuscular bladder model.

Jonathan C. Routh, MD, MPH, Assistant Professor, Division of Urology, and colleagues in his research group are presenting papers in Health Services Research looking at disparities in delivery of care in Pediatric Urology at the 2013 American Urological Association meeting.

Sherry S. Ross, MD, Assistant Professor, Division of Urology, Megan Maloney, MSN, CPNP-AC, and Henry E. Rice, MD, Professor and Chief, Division of Pediatric General Surgery, along with Brad Tashier, DO, Assistant Professor, Pediatric Anesthesiology, participated in the The Duke Guatemala project, which is an ongoing clinical, research, and educational collaboration with Guatemalan providers designed to enhance surgical care for children in Guatemala.

Michelle L. Schweitzer, MSN, CPNP-AC, Pediatric General Surgery nurse practitioner, is overseeing revision of Duke’s Institutional gastrostomy tube care programs along with Obinna O. Adibe, MD, Division of Pediatric General Surgery, Abigail Martin, MD, Assistant Professor, Division of Abdominal Transplant Surgery; and Henry E. Rice, MD, Professor and Chief, Division of Pediatric General Surgery.

The Pediatric Otolaryngology team is participating in a multicenter study with Clay Bordey, MD, MPH, Chief of Pediatric Hospital and Emergency Medicine and Medical Director, Pediatric Emergency Department, looking at vocal cord injury with cardiac surgical procedures.

Rose J. Eapen, MD, Assistant Professor, Division of Otolaryngology-Head and Neck Surgery, and Eileen M. Rayner, MD, Assistant Professor, Division of Otolaryngology-Head and Neck Surgery, served on the faculty for the combined Carolina Pediatric Airway Course. This course involves faculty and residents from Duke, University North Carolina at Chapel Hill, Medical University of South Carolina, Wake Forest University, Medical College of Georgia, and Vanderbilt University and is a two-day, hands-on event for residents from these institutions.

Duke Plastic Surgery continues its ongoing support of Global Health and Operation Smile. Teams made two significant trips over the past year. A large Duke team of faculty, residents, and students traveled to the Operation Smile Guwahati India Cleft Craniofacial Center for a two-way educational exchange and surgical care. The trip faculty included Detlev Erdmann, MD, PhD, Associate Professor, Division of Plastic, Maxillofacial, and Oral Surgery; Warwick A. Ames, MD, Assistant Professor, Department of Anesthesiology; and Pedro E. Santiago, DMD, Associate Consulting Professor, Division of Plastic, Maxillofacial, and Oral Surgery. At the invitation of the government of Puerto Rico, Drs. Marcus and Santiago also led the Duke cysteam to the University of Puerto Rico where many children were treated over a three-day period.

For more information about Duke Children’s Surgical Services, contact Dr. Marcus at 919-686-3130.
Less Invasive Treatment is Associated with Improved Survival in Early Stage Breast Cancer

Patients with early stage breast cancer who were treated with lumpectomy plus radiation may have a better chance of survival compared with those who underwent mastectomy, according to Duke Medicine research.

The study, which appeared January 28, 2013, in the Journal of Clinical Oncology, raises new questions as to the comparative effectiveness of breast-conserving therapies such as lumpectomy, where only the tumor and surrounding tissue is surgically removed.

“Our findings are observational but do suggest the possibility that women who were treated with less invasive surgery had improved survival compared to those treated with mastectomy for stage I or stage II breast cancer,” says E. Shelley Hwang, MD, MPH, Professor, Division of Surgical Oncology and Chief of Breast Surgery at Duke Cancer Institute and the study’s lead author.

Taking advantage of 14 years of data from the California Cancer Registry, a source of long-term outcome data for women diagnosed with and treated for breast cancer in California, the research team found improved survival to be associated with the less invasive treatment in all age groups, as well as those with both hormone-sensitive and hormone-resistant cancers.

Women age 50 and older at diagnosis with hormone-sensitive tumors saw the largest benefit of choosing lumpectomy plus radiation: they were 1.3 percent less likely to die from breast cancer and 19 percent less likely to die from any cause compared with those undergoing mastectomy.

Prior randomized trials have shown that when it comes to survival, lumpectomy with radiation is as effective as mastectomy in treating early stage breast cancer. As a result, the rate of women electing lumpectomy with radiation has climbed in the past few decades.

However, a recent trend has emerged with more early stage breast cancer patients, often younger women with very early cancers, opting for mastectomy. These women may perceive mastectomy to be more effective at eliminating early stage cancer and therefore reducing the anxiety accompanying long-term surveillance.

“Given the recent interest in mastectomy to treat early stage breast cancers despite the research supporting lumpectomy, our study sought to understand what was happening in the real world, how women receiving breast-conserving treatments were faring in the general population,” says Dr. Hwang.

The team analyzed data from 112,154 women diagnosed with stage I or stage II breast cancer between 1990 and 2004, including 61,771 who received lumpectomy and radiation and 55,383 who had mastectomy without radiation.

The researchers looked at age and other demographic factors, along with tumor type and size to decipher whether each treatment had better outcomes for certain groups of women. Patients were followed on average for 9.2 years.

The researchers evaluated whether illnesses other than breast cancer, such as heart and respiratory disease, may have influenced whether women chose lumpectomy or mastectomy. Within three years of diagnosis, breast cancer patients who underwent lumpectomy and radiation had higher survival rates than those who chose mastectomy when all other illnesses were evaluated. This suggests that women choosing lumpectomy may have been generally healthier.

However, Dr. Hwang and her colleagues were surprised to also find that early stage breast cancer patients treated with breast-conserving treatment had a significantly better short-term survival rate from breast cancer than women who underwent mastectomy. A subset analysis limited to women with stage I cancer only showed consistent results.

“The hopeful message is that lumpectomy plus radiation was an effective alternative to mastectomy for early stage disease, regardless of age or tumor type,” says Dr. Hwang. “Our study supports that even patients we thought might benefit less from localized treatment, like younger patients with hormone-resistant disease, can remain confident in lumpectomy as an equivalent and possibly better treatment option.”

The authors emphasize that observational studies such as this one cannot establish causality between type of surgery and outcome and that longer follow up is needed. Nevertheless, this is a provocative observation that requires more research to understand whether patient factors that were not available for analysis might contribute to these observed survival differences.

In addition to Dr. Hwang, study authors include Daphne Y. Lichtensztajn, MS; Scarlett Lin Gomez, PhD; and Christina A. Clarke, PhD of the Cancer Prevention Institute of California. Barbara Fovellie, MD, of the University of California San Francisco Helen Diller Family Comprehensive Cancer Center also contributed to the research.

New Immune Therapy Successfully Treats Brain Tumors in Mice

Using an artificial protein that stimulates the body’s natural immune system to fight cancer, a research team at Duke has engineered a lethal weapon that kills brain tumors in mice while sparing other tissue. If it can be shown to work in humans, it would overcome a major obstacle that has hampered the effectiveness of immune-based therapies for cancer.

The protein is manufactured with two arms—one that exclusively binds to tumor cells and another that snags the body’s fighter T-cells, spurring an attack on the tumor. In six out of eight mice with brain tumors, the treatment resulted in cures, according to findings published December 17, 2012, in the Proceedings of the National Academy of Sciences.

“This work is a revival of a somewhat old concept that targeting cancer with tumor-specific antigens may well be the most effective way to treat cancer without toxicity,” says senior author John H. Sampson, MD, PhD, Professor, Division of Neurosurgery. “But there have been problems with that approach, especially for brain tumors. Our therapeutic agent is exciting, because it acts like Velcro to bind T-cells to tumor cells and induces them to kill without any negative effects on surrounding normal tissue.”

Dr. Sampson and colleagues focused on the immune system in breast cancers, which are notoriously difficult to treat. Despite surgery, radiation and chemotherapy, glioblastomas are universally fatal, with a median survival of 15 months.

Immunotherapies, in which the body’s B-cells and T-cells are targeted to attack tumors, have shown promise in treating brain and other cancers, but have been problematic in clinical use. Treatment have been difficult to administer at therapeutic doses, or have spurred side effects in which the immune system also attacks healthy tissue and organs.

Working to overcome those pitfalls, the Duke-led researchers designed a kind of connector—an artificial protein called a bispecific T-cell engager, or BiTE—that tethersthe tumor to its killer. Their newly engineered protein includes fractions of two separate antibodies, one that recruits and engages the body’s fighter T-cells and one that expressly homes in on an antigen known as EGFRvIII, which only occurs in cancers.

Once connected via the new bispecific antibody, the T-cells recognize the tumor as an invader, and mount an attack. Normal tissue, which does not carry the tumor antigen, is left unscathed.

“Two of the major advantages is that this therapy can be given intravenously, crossing the blood-brain barrier,” says lead author Bryan Choi, a dual MD-PhD candidate at Duke. "When we gave the therapy systemically to the mice, it successfully localized to the tumors, treating even bulky and invasive tumors in the central nervous system.”

The team also developed an antidote to other current immune-targeting therapies that have a toxic effect, enhancing their safety profiles and bolstering their effectiveness.

“Additional studies will concentrate on whether these findings can be replicated in human trials, and whether the treatment is affected by the use of current therapies such as radiation and chemotherapy,” says Dr. Sampson.

In addition to Drs. Sampson and Choi, study authors from Duke include Gary E. Archer, PhD; Duane A. Mitchell, MD, PhD; Chien-Tsun Kuan, PhD; Patrick C. Godson; Luis Sanchez-Perez, PhD; and Dandl B. Bigner, MD, PhD, along with Mingying Cai from Boehringer Ingelheim Pharmaceuticals, Inc.; and Ira Pastan, MD, of the National Cancer Institute.
SURGERY RESEARCH GRANT ACTIVITY

Basic and Translational Research

Todd V. Brennan, MD, Assistant Professor, Division of Abdominal Transplant Surgery, was awarded a grant from The Biomarker Factory for “Heparan Sulfate as a Biomarker for Kidney Transplant Research.”

Charles J. Gerardo, MD, Associate Professor, Division of Emergency Medicine, was awarded a grant from BTG International, Inc. for “Time to Antivenom Administration in Snakebite.”

David H. Harpole, Jr., MD, Professor, Division of Cardiovascular and Thoracic Surgery, was awarded a grant from the University of Colorado for “Lung Squamous Cell Carcinoma: Validation of Molecular Signatures of Progression.”

Stephen T. Keir, DPH, Associate Professor, Division of Neurosurgery, was awarded a grant from Raphael for “Evaluation of Cannabinoid Receptor Agonist Agonist in Glioblastoma.”

Bruce Kitzman, PhD, Associate Professor, Division of Plastic, Maxillofacial, and Oral Surgery, was awarded a grant from Profusa, Inc., for “Optical Measurement of Subcutaneous Glucose in Rats.”

James Koh, PhD, Assistant Professor, Division of Surgical Sciences, was awarded a grant from the University of Maryland for “Molecular Mechanisms of Altered Calcium Sensing in Human Parathyroid Disease.”

Alexander T. Limkakeng, Jr., MD, Assistant Professor, Division of Emergency Medicine, was awarded a grant from the University of Pittsburgh for “ProGRESS: Late Cardiovascular Consequences of Septic Shock.”

Herbert K. Lyerly, MD, Professor, Division of Surgical Sciences, was awarded grants from the Department of Defense for “Developing a HER2 Vaccine to Prevent Resistance to Endocrine Therapy” and “Oncogenic Signaling Networks.”

Duane A. Mitchell, MD, PhD, Assistant Professor, Division of Neurosurgery, was awarded a grant from Annias Immunotherapeutics, Inc. for “Cytomegalovirus (CMV) Therapeutic Vaccine for the Treatment of Glioblastoma Multiforme.”

Carrie R. Muh, MD, Assistant Professor, Division of Urology, was awarded a grant from the Pediatric Hydrocephalus Foundation for “A Randomized Controlled Trial of ETV vs. VP Shunt for Communicating Hydrocephalus.”

Robert D. Pearstein, PhD, Assistant Professor, Division of Neurosurgery, was awarded a grant from Loma Linda University for “Radiation Medicine Central Nervous System Studies Phase II.”

Scott Pruit, MD, PhD, Adjunct Associate Professor, Division of Surgical Oncology, was awarded a grant from the Susan G Komen for the Cure for “Novel Immunotherapeutic Approach for Triple Negative Breast Cancer.”

Sherry S. Ross, MD, Assistant Professor, Division of Urology, was awarded a grant from Christopher Reeve Paralysis Foundation for “Understanding the Micrornal Community of the Neuropenic Bladder.”

Jonathan C. Routh, MD, Assistant Professor, Division of Urology, was awarded a grant from Dendreon Corporation for “Predicting Metastatic Disease Among Non-Metastatic Castrate-Resistant Prostate Cancer Patients.”

Georgia D. Toms, PhD, Associate Professor, Division of Surgical Sciences, was awarded a grant from the Bill and Melinda Gates Foundation for “Multiplex Antibody and Cell Associated Viral Load Incidence Assay.”

John S. Wiener, MD, Associate Professor, Division of Urology, was awarded a grant from the National Institutes of Health for “Clinical Genomics Study: Recruitment and Return of Clinically Actionable Results.”

Clinical Trials

Carlos A. Bagley, MD, Assistant Professor, Division of Neurosurgery, was awarded a grant from K2M, Inc., for “Multi-Center Retrospective and Observational Clinical and Radiographic Data Registry.”

Jeffrey H. Lawson, MD, PhD, Professor, Division of Vascular Surgery, was awarded a grant from Profibrief, Inc., for “A Phase II, Randomized, Single-Blind, Controlled Trial of Fibrocaps in Intraoperative Surgical Hemostasis (FINISH-3).”

Debra L. Sudan, MD, Professor and Chief, Division of Abdominal Transplant Surgery, was awarded a grant from Astellas Pharma Global Development for “A Phase 2a, Randomized, Open-Label, Active Control, Multi-Center Study to Assess the Efficacy and Safety of ASKP1240 in de novo Kidney Transplant Recipients.”

Christopher Mantyh, MD, Associate Professor, Division of Cardiovascular and Thoracic Surgery, was awarded a grant from Thoratec Corporation for “Thoratec Corporation CentriMag RVAS: Post-approval Study Protocol.”

Carmelo A. Milano, MD, Associate Professor, Division of Cardiovascular and Thoracic Surgery, was awarded a grant from Thoratec Corporation for “Thoratec Corporation CentriMag RVAS: Post-approval Study Protocol.”

Dr. Mantyh was also awarded a grant from Coviden, Ltd. for “Evaluating Safety and Feasibility of the Radiial-Reload Stapler with Tri-Staple TM Technology During Open Low Anterior Resection for Rectal Cancer: A Prospective Multicenter Case Series.”

Contact: Christy Walls, 919-668-5499

Debra L. Sudan, MD, Professor and Chief, Division of Abdominal Transplant Surgery, was awarded a grant from Astellas Pharma Global Development for “A Phase 2a, Randomized, Open-Label, Active Control, Multi-Center Study to Assess the Efficacy and Safety of ASKP1240 in de novo Kidney Transplant Recipients.”

Contact: Juliana Gardner, 919-613-6472

For an up-to-date listing of Duke Surgery research, visit surgery.duke.edu/research
NEW FACULTY

Steven J. Barmach, MD
Division of Emergency Medicine
Clinical interests include acute care, aerospace medicine, acute cardiac disease, disaster medicine, diving medicine, emergency care, pre-hospital emergency medicine, resuscitation, toxicology, trauma, and urgent care.
919-684-5537

Mani Daneshmand, MD
Division of Cardiovascular and Thoracic Surgery
Clinical interests include adult cardiac surgery, vavular heart disease, ischemic heart disease, thoracic organ transplantation, mechanical circulatory support, ECMO, and surgery for atrial fibrillation.
919-684-4064

Charles E. Murphy, MD
Assistant Professor, Division of Cardiovascular and Thoracic Surgery, was appointed the Department of Surgery’s Quality Improvement Physician Champion. In this role, Dr. Murphy will lead Duke Surgery’s strategic quality and safety program and will work closely with hospital administration on quality improvement initiatives.

Chuan W. Park, MD
Assistant Professor, Division of Metabolic and Weight Loss Surgery and Richard A. Pierce, MD, PhD, Assistant Professor, Division of General and Advanced GI Surgery, have been named Associate Directors of the Duke Center for Bariatric and Minimally Invasive Surgery. The Center, part of Duke Health’s Department of Surgery, was established in 2017 to provide leadership and direction in both clinical care and research in the fields of weight loss surgery and minimally invasive GI surgery. The Center’s mission is to improve patient outcomes by providing the highest quality clinical care and by advancing science in this field.

Matthew O. Fraser, PhD
Division of Urology
Research interests include pelvic visceral sensory and motor function and dysfunction with a primary focus on the lower urinary tract as well as translational research with a focus on bladder physiology studies. Dr. Fraser has been awarded nine patents and currently has thirty-three published patent applications.
919-462-5067

David Jang, MD
Division of Otolaryngology – Head and Neck Surgery
Clinical interests include rhinology and endoscopic skull base surgery.
919-613-6407

Rowena B. Mariano, MD
Division of Neurosurgery
Clinical interests include cervical stenosis, chronic pain, interventional disc herniation, lumbar disc herniation, pain clinic, reflex sympathetic dystrophy, spasticity, spinal cord stimulation, spondylodiscitis, spondylolisthesis, and thoracic spinal stenosis, disc herniation.
919-668-7600

Sanjana A. Roman, MD
Division of Surgical Oncology
Clinical interests include endocrine surgery, including adrenal, thyroid and parathyroid benign diseases and cancers, advanced stage cancer; mediulary and anaplastic thyroid cancer; familial syndromes (i.e. Multiple Endocrine Neoplasia 1, 2 A and B, FMC, von Hippel-Lindau, etc); minimal access/minimally invasive parathyroidectomy and laparoscopic techniques, including posterior retroperitoneal adenectomy.
919-660-9675

Charles D. Scales, MD
Division of Urology
Clinical interests include general adult urology, with a particular emphasis on the treatment and prevention of kidney stones; and benign prostatic hyperplasia (BPH).
919-684-203

Julie A. Sosa, MD
Division of Surgical Oncology
Clinical interests include endocrine surgery, including surgery for thyroid cancer; minimally invasive parathyroidectomy and laparoscopic adenectomy (posterior retroperitoneal); clinical trials; and surgical oncology.
919-660-9675

David B. Powers, MD, DMD
Division of Plastic, Maxillofacial, and Oral Surgery
Clinical interests include craniomaxillofacial trauma and reconstruction, with a clinical focus on the management of high-energy transfer and ballistic injuries to the facial skeleton; orthogonathic and craniofacial surgery for developmental, congenital and acquired facial deformities; prosthetic facial reconstruction after oncologic ablative surgery; surgical management of sleep disordered breathing (sleep apnea); surgical treatment of snoring and oral surgical procedures for the medically compromised patient.
919-684-2943

HONORS :: AWARDS :: ACCOMPLISHMENTS

Charles E. Murphy, MD
Assistant Professor, Division of Cardiovascular and Thoracic Surgery, was appointed the Department of Surgery’s Quality Improvement Physician Champion. In this role, Dr. Murphy will lead Duke Surgery’s strategic quality and safety program and will work closely with hospital administration on quality improvement initiatives.

Michael H. Haglund, MD, PhD
Professor, Division of Neurosurgery, has been honored with the 2013 Leonard Palumbo, Jr., MD Faculty Achievement Award. The award recognizes Dr. Haglund's dedication to compassionate patient care and excellence in teaching and mentoring. He was also awarded a Distinguished Alumni award from Pacific Lutheran University.

Martha Ann Keels, DDS, PhD
Chief of Pediatric Dentistry, was awarded the American Academy of Pediatrics Award in Oral Health for her contributions to improving children’s oral health on the national level, and she was named Chair of Council of Scientific Affairs for the American Academy of Pediatric Dentistry.

Michael E. Lipkin, MD
Assistant Professor, Division of Urology, was featured in Modern Medicine for his study on obesity patients’ radiation absorption from computed tomography (CT) scans. The study was published in the Journal of Urology.

Judd W. Moult, MD
James H. Semans, MD, Professor, Division of Urology, was an invited guest lecturer for the Department of Surgery at the University of Hong Kong on March 5, 2013. His presentation was entitled, “Open versus robotic prostatectomy for Prostate Cancer”.

Glenn M. Preminger, MD
The James F. Glenn Distinguished Professor of Urology Surgery and Chief, Division of Urology, was honored by the School of Medicine of the University of Athens with the title of Doctor Honoris Cerui—a symbolic recognition to his worldwide scientific valued status in Urology during the Athenian Days in Urology meeting. In addition, Dr. Preminger was awarded the St. Paul's medal by the British Association of Urological Surgeons to “appreciate and honor distinguished colleagues from overseas.” Dr. Preminger along with Dr. Grant A. Iannas, MD, FACS, Assistant Professor, Division of Urology and John S. Wiener, MD, Associate Professor, Division of Urology, served as judges at the Frederick C. Valentine Resident Essay Contest for the New York Section of the American Urological Association in New York City on April 10, 2013.

Jonathan C. Roule, MD
Assistant Professor, Division of Urology, was selected as a recipient of the Best Reviewer in 2012 Award by The Journal of Urology.

Cynthia Shortell, MD
Professor and Chief, Division of Emergency Medicine, was selected as a recipient of the Best Reviewer in 2012 Award by The Journal of Urology.

Surgery at Duke 2013
Duke Maestro Care, a single, integrated electronic health record, will have a significant positive impact on nursing across Duke University Health System, but one of its most important outcomes will be in facilitating the development of patients’ care plans.

The change is far more than going paperless, though that shift is noteworthy in its own right. It also represents a cultural course-correction in the way each care plan is developed and electronically shared across disciplines to ensure coordinated, continuous and safe care that is appropriate for each patient. It also re-emphasizes the central role of nurses in the whole process.

One significant change will be the 85 standardized care plans prepared for use in the Maestro Care system. Each was developed by a multidisciplinary team from across the health system, and each will allow everyone involved in the patient’s care to see what other care providers are doing, creating a real-time, fully integrated record across the health system.

Though standardized, the care plan process is dynamic, allowing plans to be amended to optimize care for each individual patient. As electronic documentation tools replace paper and provide easier access to a broad array of standardized, real-time information, nurses will be able to deliver even better care to patients and their families.

Patients will no longer have to face the same questions and give the same answers about their medical history every time they seek care at a Duke Medicine facility. Nurses and other care providers will no longer spend time sorting through multiple paper files or checking multiple locations to complete their review of a patient’s record.

The Duke Medicine Pavilion, a major expansion of Duke University Hospital, will open in July 2013 with full Maestro Care capabilities. The 680,000-square-foot surgical, imaging, and critical care facility will provide needed capacity to enhance Duke’s ability to provide world-class care of patients.

Duke Raleigh Hospital is scheduled for Maestro Care implementation in February 2014, followed by Durham Regional Hospital in July 2014.

Robotic Surgery Skills Training

Durham, NC
Basic and advanced robotic surgery training courses are offered to novice and experienced surgeons utilizing the dVTrainer, developed by Mimic Technologies, to provide simulation training for da Vinci robotic systems.

Durham Regional Hospital will become Duke Regional Hospital in late summer 2013 to better reflect the important relationship it has as part of Duke Medicine.

“Since joining Duke University Health System in 1998, the Durham Regional Hospital-Duke relationship has been less than clear to hospitals and physicians wanting to refer or transport patients to a Duke facility in Durham, other than Duke University Hospital,” says President Kerry Watson. “With Duke now being part of the hospital name, we believe it will be clearer to all referral sources, as well as patients in this market, that Duke Regional Hospital is every bit Duke with the same high standards for quality and safety, and outstanding clinical care teams.”

Watson also highlighted the tag line, “Serving our community since 1976,” which reflects the hospital’s history and tradition of caring for the Durham community.

The renaming follows extensive marketing research that suggests connecting more prominently with Duke will increase awareness of the hospital, reduce barriers for referrals and transfers and help recruit health professionals.

Maestro Care Facilitates Development of Patients’ Care Plans

Duke’s One Patient–One Record–One System

Duke University School of Medicine celebrates the Mary Duke Biddle Trent Semans Center for Health Education – the first new home for medical education at Duke since 1930.

The new six-story, 104,000-square-foot health education building opened to students in January, featuring a floor dedicated to simulation laboratories that can transform from mock clinical exam rooms to surgery suites and emergency rooms.

Trent Semans Center for Health Education

Duke Center for Surgical Innovation

Masters of Minimally Invasive Thoracic Surgery

September 19–21, 2013
Waldorf Astoria Orlando
Orlando, Florida

For more information go to
innovation.surgery.duke.edu/courses
Mission
The Department of Surgery is committed to excellence, innovation, and leadership in meeting the health care needs of the people we serve and fostering the very best medical education and biomedical research.

Vision
As one of the leading national and international academic departments of surgery, we will assemble and integrate a comprehensive range of health care resources providing the very best in patient care, medical education, and clinical research. As the health care providers of choice in the region, we will improve the health of the communities we serve through the development of new and better models of health care. Through careful stewardship of our resources, we will preserve and promote our core missions of outstanding clinical care, discovery research, and improved health for the communities we serve.

Partners in Philanthropy
A gift to the Duke Department of Surgery is a gift of knowledge, discovery, and life. Every dollar is used to further our understanding of surgical medicine, to develop new techniques, technology, and treatments, and to train the surgeons and researchers of the future.

If you would like to make a philanthropic investment in Duke Surgery, visit surgery.duke.edu/gift.

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