Advancing Knowledge
Looking back at this past year, we’ve made remarkable progress in all dimensions of our tripartite mission of clinical care, research and education. We are steadfast in our pursuit of innovation that will shape the future practice of surgery. Ever-mindful of the distinguished history of our Department at the University of Chicago, we lead by example to meet the complex, dynamic challenges that face academic medical centers in delivering quality health care to our local community, our region and the nation.
We seek to provide compassionate and comprehensive care to patients confronting the most complex medical challenges. Once again, the University of Chicago Medical Center was ranked among the top 25 programs by U.S. News & World Report (July 2009) for digestive disorders (#6), endocrinology (#14), cancer (#17), kidney disease (#17), neurology & neurosurgery (#15), ear, nose & throat (#24) and heart & heart surgery (#25). Our premier multidisciplinary clinical programs are anchored in translational research and distinguished by leading-edge technology. Our patients benefit from our expertise in minimally invasive techniques, including robotic and endoluminal procedures. Complementing our vast surgical experience are the collaborative relationships we have built with medical professionals in various disciplines to provide patients with comprehensive treatment plans. We are dedicated to educating our patients so that they can truly make informed decisions about their health.

Beyond the operating rooms, faculty members conduct high-level research that is breaking new ground. In the scholarly oasis of the University of Chicago, teams of investigators set an ambitious research agenda to answer fundamental questions about human disease and to develop innovative solutions that move promising new findings from the laboratory to the bedside. The University of Chicago–Argonne National Laboratory Bioengineering Institute for Advanced Surgery and Endoscopy (BIASE) has accelerated progress in visualization, advanced instrumentation and biomaterials.

Education and the advancement of knowledge is the foundation of an academic medical center. At the University of Chicago, it is the goal of our surgical training programs to inspire future leaders. We uniquely embed simulation and immersive learning methods within a framework of ethics and professionalism. Growing capabilities in our simulation laboratory include state-of-the-art technology that allows our students, residents and fellows to practice and become proficient in the basic skills and cognitive knowledge required to perform laparoscopic surgical procedures prior to entering the operating room.

We look forward to another incredible year of extraordinary achievement and distinction in our scholarly efforts, training programs and, above all, the care of our patients.

Jeffrey B. Matthews, MD
Dallas B. Phemister Professor of Surgery
Chairman, Department of Surgery
The University of Chicago

Department of Surgery by the Numbers

<table>
<thead>
<tr>
<th>Clinical Activity</th>
<th>CASES</th>
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The Department is a recognized leader in minimally invasive surgery, the practice of performing surgical procedures through tiny incisions. Minimally invasive surgery offers many benefits over traditional techniques, including: less pain, shorter hospital stays, quicker return to normal activities, minimal scarring, reduced recovery time and less injury to tissue. In many cases, surgeons can perform these minimally invasive procedures using the da Vinci Surgical System, a high-tech, computer-enhanced system. Many faculty have long been using the da Vinci robot. Urologic cancer surgeons, as an example, have been performing robotic procedures since 2002. As one of the leading urologic cancer institutions in the country, the Section offers the most experienced minimally invasive laparoscopic and robotic cancer surgery programs. They treat more patients with prostate, bladder and kidney cancer than any other institution in Illinois, and are one of the ten largest urologic cancer programs in the country.

A full spectrum of innovative diagnostic and therapeutic technology will soon be available to patients with fecal incontinence and constipation. The Pelvic Floor Center will utilize state-of-the-art anulphysiology and manometry equipment to evaluate the function of the anal sphincter mechanism, the anal canal and the rectum. Anorectal physiology testing can identify the precise causes of fecal incontinence, constipation or pelvic pain. This testing is essential in selecting proper medical and/or surgical treatment modalities. The manometry testing is also used to follow the treatment progress or to evaluate the effect of surgical intervention on pelvic floor function.

Once a diagnosis is established, the Pelvic Floor Center will provide patients with therapeutic treatments during biofeedback sessions allowing the patients to re-train the disordinated pelvic floor muscles, restore sensation and improve quality of life. Additional diagnostic modalities include: a three-dimensional ultrasound, pudendal nerve terminal motor latency testing, lower endoscopy and dynamic proctography.

Spine surgeons Frederick Brown, MD, and Ben Z. Roitberg, MD, offer advanced, cutting-edge reconstructive options that are minimally invasive and minimally disruptive. Dr. Roitberg also performs additional minimally invasive and minimally disruptive procedures, such as facet fusions.

Orthopaedic spine surgeons Purnendu Gupta, MD, and Christopher Sullivan, MD, also treat many different types of spinal conditions, but specialize in spinal deformities. Dr. Sullivan primarily takes care of children and adolescents who have spinal deformities as well as children with neurological conditions, such as cerebral palsy or muscular dystrophy, who develop secondary spinal deformities as well as children with neurological conditions, such as cerebral palsy or muscular dystrophy, who develop secondary spinal deformities. Dr. Gupta performs posterior corrective spinal osteotomy, one of the latest treatment methods for severe cases of scoliosis and kyphosis. For complex cases of spondylolisthesis, he performs spinal fusion using bone morphogenetic proteins, growth factors that have the ability to induce bone formation, to assist with healing the fusion without using the patient’s iliac crest for the bone graft.

Plastic surgeons David H. Song, MD, MBA, and Julie E. Park, MD, offer advanced, cutting-edge reconstructive options that are...
On the left is a large, thoracoabdominal aneurysm extending from the distal thoracic aorta to the abdominal aorta and involves the mesenteric and renal arteries. Repair of the aneurysm was undertaken utilizing a staged approach (right image). First, the mesenteric and renal vessels were debouched off the aneurysm utilizing a quadrangular graft originating from the left common iliac artery to the renal, celiac, and superior mesenteric arteries. In a second stage several weeks later, the aneurysm was excluded with endovascular stent grafting. Opposite: Konstantin Umanskiy, MD, performing a laparoscopic colorectal procedure.

Collaboration and the exchange of ideas are essential for clinical care. Virtually all of the faculty coordinate with experts in other sections and departments to deliver advanced, comprehensive care to patients. Pediatric surgeons Donald C. Liu, MD, PhD, works with vascular surgeons Christopher Skelly, MD, to surgically treat Median Arcuate Ligament Syndrome (MALS), a medical condition that occurs when the median arcuate ligament compresses the celiac artery and compromises blood flow causing symptoms, such as abdominal pain shortly after eating meals, weight loss or an abdominal bruit. Drs. Liu and Skelly treat this condition through a minimally invasive technique where the ligament restricting the artery is released.

The Orbital Tumor Center provides innovative treatments and multidisciplinary care to diseases involving the orbit, the cone-shaped bony socket that contains and protects the eyeball. It is the first known center dedicated solely to the care of orbital tumors. The Center brings together experts from oculoplastic surgery, neuro-ophthalmology, neurosurgery, head and neck surgery, radiation oncology and neuroradiology. Physicians conduct thorough ophthalmic evaluations and run tests to diagnose patients and determine the size, location and progression of the tumor. Physicians then review the management options with patients and their families and recommend the best treatments. Surgery is often the mainstay of treatment for orbital tumors. Surgeons use minimally invasive surgical techniques, which allow them to access the orbit through the inside of the nose without making an incision in the skin. This minimally invasive approach results in less complications and damage to the critical structures within the orbit and improved functional outcomes. Surgery is not the only option for patients. In some cases, organ-sparing techniques including radiation therapy are successfully used to treat patients with orbital tumors, such as optic nerve sheath meningiomas.

Collaborations extend beyond the University of Chicago campus. The Section of Transplantation, working through the UCMC Transplant Program, has opened the University of Chicago Transplant Evaluation Program at NorthShore University HealthSystem. The Transplant program offers evaluation and ancillary testing services for patients requiring a solid organ transplant by experienced transplant surgeons, transplant cardiologists, hepatologists, nephrologists and pulmonologists. In addition, the Section of Pediatric Surgery now provides on-call, pediatric general surgery services at NorthShore. The Section also opened a pediatric surgery clinic in Evanston to see post-operative patients and provide consultations to patients referred to the group.
Advancing Knowledge

Dedicated to educating and inspiring the next generation of leaders, the University of Chicago Department of Surgery is constantly evolving with advanced simulation technology, unique educational programs and new courses.

At the forefront of knowledge and innovation, the Department’s Laparoscopic Skills Laboratory features state-of-the-art technology, including inanimate and virtual reality simulators. The laboratory allows medical students, residents and fellows to practice and become proficient in the basic skills and cognitive knowledge required to perform laparoscopic surgical procedures prior to entering the operating room.

Surgical faculty remain committed to providing quality education and training to medical students. Clinical surgeons are now participating in didactic and tabletop instruction in Human Morphology for first-year medical students. The goal of the small group contact is to impress upon medical students the critical role of human anatomy in the surgical care of human diseases and to expose students to clinicians early in the medical education process.

Under the leadership of Nora Jaskowiak, MD, medical student evaluations of the junior clerkships continue to medically improve, especially concerning feedback and misattributions. Kevin Roggin, MD, as an ambassador for medical students and new residents for the University of Chicago Medical Center, has helped develop new modules to address the issue of “disruptive physicians” for all clerkship and program directors in the medical education’s retreats. Additionally, Drs. Jaskowiak, Roggin as well as Javad Heimatan-Pasho have all been inducted into the University of Chicago Pritzker School of Medicine Academy of Distinguished Medical Educators. Fellows of the Academy are selected based on significant contributions to the education of medical students as well as recognized excellence in teaching.

Graduate medical education programs continue to be robust and competitive. This year, the Department received 958 applications for the general surgery program from medical students around the country. During the 2009-10 recruitment season, the Department’s six first-year general surgery residents matched in the top third of the Department’s highly competitive match list. This has been true perennially in Orthopaedic Surgery and Rehabilitation Medicine, Otolaryngology-Head and Neck Surgery, Plastic and Reconstructive Surgery, Transplantation as well as Vascular Surgery and Endovascular Therapy.

Expanding its programs, the Section of General Surgery has developed two new fellowships in minimally invasive surgery as well as colon and rectal surgery. The minimally invasive surgery fellowship focuses on the minimally invasive treatment of esophageal, gastric, hepatobiliary, pancreatic, colorectal and adrenal disorders, both benign and malignant. The fellow works with about 10 different attending surgeons for one year. In addition to gaining technical experience in the operating room, the fellow has the opportunity to learn about the preoperative evaluation and the postoperative care of patients with these disorders. The fellow will work in the University of Chicago Simulation Center to assist in the training of residents. The fellow will also have the opportunity to participate in clinical outcomes research, the publication of manuscripts and book chapters, and the presentation of studies in national and international meetings.

The colon and rectal surgery fellowship, accredited by the Accreditation Council for Graduate Medical Education, is only one of three programs currently available in Illinois. The one-year fellowship refines the fellow’s clinical judgment and surgical skills involving diagnosis and treatment of colorectal pathologies and provides extensive working knowledge in endoscopic techniques. The fellowship offers exposure to basic science research in the field of inflammatory bowel disease, colorectal oncology and medical oncology related to colorectal neoplasms. One of the program’s strengths is its collaborative approach. The fellow spends eight months at the University of Chicago Medical Center and four months at Northwestern Memorial Hospital. While at the University of Chicago, the fellow works closely with the Section of Gastroenterology as well as the Departments of Pathology and Radiology.

Along with clinical education, some of the surgical research faculty have created unique basic science courses in the University of Chicago Biological Sciences Division (BSD) and Physical Sciences Division (PSD). These include Epithelial Cell Biology as well as Extracellular Matrix Chemistry and Biology. The Epithelial Cell Biology course, under the direction of Kathleen Goss, PhD, is for undergraduate, graduate as well as medical scientist training program (MD/PhD) students who...
The Extracellular Matrix Chemistry and Biology course, led by Joel Collier, PhD, is for BSD and PSD graduate students. The course investigates the biology, assembly and structure of the extracellular matrix, proteins that surround cells in tissue to provide mechanical strength and elasticity. It incorporates research concepts from Dr. Collier’s lab involving the engineering and designing of synthetic extracellular matrices. This course strives to bring students together from the BSD and PhD to potentially facilitate some cross collaborations and increase flow of information between different labs across campus,” said Dr. Collier.

For junior and mid-career surgeons, the Surgical Ethics Fellowship Program, directed by Peter Angelos, MD, PhD, continues to provide ethics training in research, teaching and clinical ethics consultations. This program aims to improve ethics education of surgeons throughout the U.S., define and establish the field of surgical ethics, and provide role models for how surgical ethics can be incorporated into an academic surgeon’s career. The goal is to train the next generation of surgeons to be both excellent and ethical surgeons. The program features an intensive summer bioethics course, followed by ongoing seminars and weekly ethics case conferences. Additionally, monthly ethics case conferences explore challenging cases that arise specifically in the care of surgical patients, and monthly surgical ethics literature reviews explore recent ethics publications with relevance to current surgical practices. These teaching activities have led to the regular incorporation of ethics discussions into other surgical conferences such as the Morbidity and Mortality Conference.
Cultivating Discovery

Fostering innovative research, the University of Chicago Department of Surgery is advancing knowledge and shaping the practice of surgery with potential therapeutic breakthroughs. The Department prides itself on its many highly regarded investigators in basic or translational research as well as clinical research.

Jose Guevara-Patiño, MD, PhD, is conducting innovative research on cancer vaccines using a gene gun or a biolistic particle delivery system. Originally designed for plant transformation, the gene gun is a device for injecting cells with genetic information. The payload is a particle of a heavy metal coated with plasmid DNA. The gene gun technique is used in the laboratory in an edible vaccine production technique, where the nano-gold particles coated with plasmid encoding cancer vaccines are delivered to the skin of tumor-bearing mice.

Following DNA vaccination, it is expected that the mice will mount active T cell immune responses against the DNA-encoded tumor antigen. These T cell responses are expected to search, identify and kill tumor cells. This method of delivering DNA vaccination is used to test the effectiveness of different DNA vaccines against different types of cancer. For example, the lab has been successful using this method at developing protective T cell responses against melanoma in mice. Dr. Guevara-Patiño is currently exploring novel vaccine design against neo-vasculature antigens. These antigens are expressed by all tumors that require blood flow for survival. Their identification by T cells is expected to result in the destruction of the blood flow supply that maintains tumors.

Researchers in Ophthalmology and Visual Science are using innovative technology to determine the presence of retinal eye disease by investigating how rods and cones, the two types of photoreceptors in the eye, contribute to mesopic vision, which is a combination of rod and cone vision in modest lighting situations, such as most twilight or nighttime outdoor and traffic lighting situations as well as indoor lighting.

Dingcai Cao, PhD, is investigating mesopic vision using a novel four-primary photostimulator developed by Joel Pokorny, PhD, a retired Professor in Ophthalmology and Visual Science. The photostimulator is only designed and manufactured at the University of Chicago. Dr. Cao uses the photostimulator to measure rod and cone inputs at the cellular level (in-vivo ganglion cell recording in primates), the perceptual level (mesopic visual perception) and the behavioral level (reaction time).

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In the Section of Research, basic scientists investigate the molecular mechanisms to better understand diverse pathologies, such as breast cancer or renal diseases. Karl S. Matlin, PhD, is investigating the regulation of extracellular matrix proteins during epithelial cell polarization, a process essential for proper organ function. Under some pathological conditions, such as ischemic damage to the kidney, epithelial cells detach from the extracellular matrix (basement membrane) and lose polarization, impairing the normal function of the kidney. The surviving cells secrete a temporary extracellular matrix that will help them to proliferate and migrate to reseal the epithelium and restore the normal function of the kidney.

Dr. Matlin’s laboratory has developed an in-vitro cell culture system that mimics the regeneration of the renal epithelium after ischemic injury. Using this system, Dr. Matlin and his team have established that the activation of the cytokine TGF-b1 regulates epithelial regeneration. A unique facet of the Department’s research program is the University of Chicago Department of Surgery and Argonne National Laboratory’s Biointerfaces and Advanced Soft Engineering (BIASE) Program. This joint partnership focuses on using a high molecular weight polyethylene-glycol-based polymer to protect the gastrointestinal tract from radiation injury. These findings will contribute to the design of future therapies for facilitating epithelial regeneration.

Another joint research effort involves the University of Chicago faculty are involved in this research collaboration. They include: Jeffrey Frank, MD, Robert Harland, MD, Neeraj Jolly, MD, Jai Raman, MD, M Med, PhD, Arieh Kasza, PhD, and Sergey Shikanov, PhD. Argonne’s research group includes: John Christiansen, MS, Paul Fischer, PhD, Ken Shalhav, MD, and Sergey Shikanov, PhD. Argonne’s research group includes: John Christiansen, MS, Paul Fischer, PhD, Ken Shalhav, MD, Neeraj Jolly, MD, Jai Raman, MD, M Med, PhD, Arieh Kasza, PhD, and Sergey Shikanov, PhD. Argonne’s research group includes: John Christiansen, MS, Paul Fischer, PhD, Ken Shalhav, MD, Neeraj Jolly, MD, Jai Raman, MD, M Med, PhD, Arieh Kasza, PhD, and Sergey Shikanov, PhD. Argonne’s research group includes: John Christiansen, MS, Paul Fischer, PhD, Ken Shalhav, MD, Neeraj Jolly, MD, Jai Raman, MD, M Med, PhD, Arieh Kasza, PhD, and Sergey Shikanov, PhD.

This collaborative effort continues to generate new projects. John Alverdy, MD, has teamed up with Millie Firestone, PhD, of the Argonne National Laboratory’s Materials Science Division, to investigate the use of polyethylene-glycol-based polymers for medical use. Dr. Alverdy, who primarily studies post-surgical sepsis and bacterial virulence mechanisms, had previously worked on using a high molecular weight polyethylene-glycol-based polymer that protected against a mouse model of post-surgical sepsis. Dr. Firestone, who studied the physical principles that govern the organization of synthetic bio-nanometric materials, had previously worked with similar polymers to determine the relationship between their structure and their interaction with lipid membranes. With the development of BIASE, these researchers have a unique them in medical applications of polyethylene-glycol-based polymers. Overlapping interest in the renal epithelium after ischemic injury led these researchers to focus on using a high molecular weight polyethylene-glycol-based polymer to protect the gastrointestinal tract from radiation injury. This collaborative effort continues to generate new projects. Dr. Alverdy’s lab contributes both in-vivo and in-vitro experimental models to explain how polymers interact with individual cells and organs subjected to clinically relevant insults. Dr. Firestone’s lab provides expertise in polymer synthesis and advanced analysis techniques to supply details of the interactions between the polymers and the environment. Combining their expertise, these researchers hope to advance the understanding of the ways these polymers interact with living cells and how they can be used to solve clinically relevant problems.

Another group of BIASE surgeon researchers is developing new surgical techniques using an ice slurry delivery system developed by Ken Kaura, PhD, of Argonne National Laboratory, and his group of researchers. The ice slurry is used to rapidly cool and protect vital organs during certain surgical procedures, including minimally invasive laparoscopic kidney surgery, cardiac surgery to open a blocked artery, spinal cord and brain surgery, and organ transplantation. Several members from the Department of Surgery are involved in this research collaboration. They include: Jeffrey Frank, MD, Robert Harland, MD, Neeraj Jolly, MD, Jai Raman, MD, M Med, PhD, Arieh Kasza, PhD, and Sergey Shikanov, PhD. Argonne’s research group includes: John Christiansen, MS, Paul Fischer, PhD, Ken Kaura, PhD, Adrian Turner, PhD, and Yue Wu, PhD. The ice slurry can be delivered directly to vital organs through small tubes and can quickly reduce their temperature. This was not previously possible since normal crushed ice cannot flow through the small access tubes as those used in laparoscopic procedures or in procedures involving catheters. The rapid cooling effects of the ice slurry give doctors more time to perform an operation without risking damage to the organ and still provide the patients with benefits of minimally invasive laparoscopic surgery.

Another joint research effort involves the University of Chicago Brain Tumor Center, directed by Marcy S. Leinik, MD, and Argonne National Laboratory. Researchers have developed a way to target brain cancer cells using inorganic titanium dioxide nanoparticles bonded to soft biological materials. Since malignant brain tumors are resistant to conventional treatment, the nano-bio materials could eventually be used as an alternative therapeutic option that targets only cancer cells and does not affect the surrounding healthy tissue.
### CARDIAC AND THORACIC SURGERY

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<td>Myocardial Regulation of BETARRY1 by Protein Kinase C</td>
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<td>Mark Ferguson, MD</td>
<td>Improving the Predictive of Postoperative Pulmonary Function</td>
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<td>Navneet R. Gupta, MD</td>
<td>After Major Lung Resection: A Pilot Study</td>
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<td>Valluvan Jeevanandram, MD</td>
<td>The Role of PARP-BIR2 Signaling in Heart Failure</td>
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<td>The Heartwear Left Ventricular Assist Device (LVAD) System</td>
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<td>Jai Raman, MD, M Mehl, PhD</td>
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<td>Primary Plating in High Risk Median Sternotomy Patients of Osteoarthropathy and Paresis</td>
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<td>Peter Angeles, MD, PhD</td>
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<td>Eugene Chou, MD</td>
<td>LET-7 Regulation of Metastasis in Pancreatic Cancer</td>
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<td>Alessandra Fishera, MD</td>
<td>Phase II Prospective Randomized Trial Comparing Laparoscopic-Assisted Resection vs. Open Resection for Hernial Repair</td>
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<td>A Prospective, Observational, Multicenter Study Assessing Early Postoperative Recovery Following Laparoscopic Partial Large Bowel Resection</td>
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<td>Jose Guarnara-Pattie, MD, PhD</td>
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<td>Jeffrey B. Matthews, MD</td>
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<td>Mitchell C. Pearner, MD</td>
<td>A Comprehensive Program in Pancreatic Cancer Prevention and Early Detection</td>
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<td>TMEnginexidecog with S-F2 and Radiation Therapy for First-line Treatment of Unresectable Locally Advanced Pancreatic Cancer</td>
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### NEUROSURGERY

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<td>Development of an Adenoidal Vector with Chimeric Fiber for Malignant Glioma</td>
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<td>Targeted Adenoidal Gene Therapy for Malignant Glioma</td>
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<td>The Role of Regulatory T Cells in Malignant Glioma</td>
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<td>A Phase I/II Randomized Study of CDX-110 with Radiation and Temozolomide in Patients with Newly Diagnosed Glioblastoma Multiforme</td>
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### NEUROLOGY

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<tr>
<td>Marios S. Lemoski, MD cont.</td>
<td>Phase II, Multicenter, Exploratory Study, Evaluating the Treatment Effect of Surgery plus Gluader in Patients with Metastatic Brain Cancer</td>
<td>Clinical Trial</td>
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<td>A Phase II Dose Escalation Study of Locally-Administered OncoGel in Subjects with Recurrent Glioma</td>
<td>Clinical Trial</td>
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<tr>
<td>Catherine Sjekne, PhD</td>
<td>Cerebral Mechanisms of Skill Learning in Humans</td>
<td>Federal</td>
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<tr>
<td>Richard Penn, MD</td>
<td>Collaborative Research: Mathematical Optimization for Targeted Macromolecules Delivered to the Brain</td>
<td>Federal</td>
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<tr>
<td>Bakhtiar Vennil, MD</td>
<td>Nanoparticles and Nanocapsules for Glioma Targeting</td>
<td>Clinical Trial</td>
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### OPHTHALMOLOGY AND VISUAL SCIENCE

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<tr>
<td>Michael Grazii, MD</td>
<td>Generic and Genetic Studies of Diabetic Retinopathy</td>
<td>Federal &amp; Non-federal</td>
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<td>Cellular Studies of Apathies in Retinitis Pigmentosa Using Small Molecule Screening and RNA Interference</td>
<td>Non-federal</td>
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<td>The Chicago Retinal Degeneration Consortium: Advancing a Systems-Based Approach To Understanding &amp; Treating Retinal Degenerative Disease</td>
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<tr>
<td>Somu Hariprasad, MD</td>
<td>Phase III, Multicenter, Randomized, SHAM Inclusion Controlled Study of the Efficacy and Safety of Randozumab Inclusion Compared with SHAM in Subjects with Multisegmental Edema Secondary to Branch Retinal Vein Occlusion</td>
<td>Clinical Trial</td>
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<td>Phase II Prospective, Randomized, Multicenter, Diabetic Macular Edema Dose Ramp</td>
<td>Clinical Trial</td>
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<td>Computed Tomography Study Evaluating the Efficacy and Safety of PT-0352655 Versus Laser Therapy (DEGAS)</td>
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<td>Susan Koizum, MD</td>
<td>Crossover Study of PEDG Isolator as a Potential Trigger Factor for Acute NAION</td>
<td>Clinical Trial</td>
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<td>Rina McCleod, MD</td>
<td>Treatment of Congenital Torsionplasia</td>
<td>Clinical Trial</td>
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### ORTHOPAEDIC SURGERY AND REHABILITATION MEDICINE

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<th>Principal Investigator</th>
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<tr>
<td>Alex C. Hayden, MD, PhD</td>
<td>BMP-2 Mediated Osteogenesis</td>
<td>Federal</td>
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<td>Synergistic Use of Osteogenic BMP-2 in a New Zealand White Rabbit Model of Spine Fusion</td>
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<td>Effects of BMP5 and RIF-1 on Growth Plate Injuries</td>
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<td>Yong-Chool He, MD, PhD</td>
<td>Regulation of Beta-Catenin Signaling by Tyrosine Phosphorylation</td>
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<td>Role of IGFRPS in Osteogenic Differentiation</td>
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<td>Regulation of CTSG with Wnt/Beta-Catenin Signaling</td>
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<td>Hue H. Luu, MD</td>
<td>The Role of Connective Tissue Growth Factor in BMP-2-Induced Osteogenesis</td>
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<td>The Role of S100A8 in Human Osteocarcoma Metastasis</td>
<td>Non-federal</td>
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<tr>
<td>Chun-So Yuan, MD</td>
<td>CTR for Herbal Research on Colorectal Cancer</td>
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### OTOLARYNGOLOGY HEAD AND NECK SURGERY

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<tr>
<td>Fuad Baroody, MD</td>
<td>Mechanism of Action of Fluticasone Furoate in Childhood Osteoporosis</td>
<td>Clinical Trial</td>
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<td>Sleep Apnea Syndrome (OSAS)</td>
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<td>Does the Response to a Novel Disassembled Test Predict the Outcome to Treatment of Seasonal Allergic Rhinitis with Nasaline</td>
<td>Clinical Trial</td>
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<td>Intranasal CO2 for Allergic Rhinitis</td>
<td>Clinical Trial</td>
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Many faculty members donate their time in a number of ways in an effort to improve the health and well-being of patients living here and in other countries. Some are using their athletic abilities to raise money for charity, while others are donating their surgical skills. In addition, many of the surgeons are providing training to advance the knowledge of physicians in other countries so they can continue treating more patients.

Above Left: The new urologic hospital in Ho Chi Minh City hosted 50+ speakers and surgeons from 12 countries at the 8th Regional Hospital Management Asia Conference in August 2009.

Above Right: The surgeons gather for a moment of collegiality before the ASEAN meeting. Pictured left to right: Khac Linh Tran Ngoc, MD, Gary Steinberg, MD, Mark Schoenberg, MD, Arieh Shalhav, MD, and John Colberg, MD.

Opposite Left: Bekele Abebe, MD, a thoracic surgeon in training at the University Hospital in Addis Ababa, Ethiopia, and Wickii Vigneswaran, MD, prepare to remove a giant tumor from the left chest in an OR in Addis Ababa, Ethiopia.

Opposite Right: Jenny Goss, Jeni Prosperi-Sullivan, PhD, and Kathy Goss, PhD, at the Breast Cancer 3-Day Walk.

Serving the local community, the Pediatric Hearing Loss and Cochlear Implant Program, directed by Dana Suskind, MD, and Lyna Reppinger, MS, is hosting presentations and workshops for professionals and families so that they can learn about hearing loss and strategies to teach language for children with hearing loss.

For the past two years, breast cancer researchers Kathleen Goss, PhD, and Jennifer Prosperi-Sullivan, PhD, have participated in the Breast Cancer 3-Day Walk to raise awareness and monetary support for breast cancer research, education and community health programs. Together, Drs. Goss and Prosperi have raised $8,000. Similarly, the Section of Urology has participated in the Indianapolis 500 Mini-Marathon for the last four years to raise funds to support the Urology Research Program.

Arieh Shalhav, MD, and Gary Steinberg, MD, performed surgery with the residents and staff at Bin Dahn Surgery and Urologic Hospital in Ho Chi Minh City, Vietnam. They provided surgical workshops and helped organize the 17th Annual ASEAN Urological meeting held in Vietnam for the first time. They spoke on innovations in surgical and medical therapy of bladder, kidney and prostate cancer. Furthermore, Dr. Steinberg served on an advisory panel that established guidelines and a consensus statement for the management of prostate cancer in Vietnam. In addition, Gregory Bales, MD, Scott Eggener, MD, and Sangue Park, MD, all participated in medical missions with the International Volunteers in Urology in the Congo as well as Hue, Vietnam.

David H. Song, MD, MBA, an active volunteer and member of the Board of Directors for the Medical Aid for Children of Latin America, traveled to the Dominican Republic with a team of plastic surgery residents to provide surgical care for children with congenital deformities, such as cleft lips and palates, burn scar contractures and other correctable physical deformities. Dr. Song’s team typically examines over 90 patients and treats over 200 patients each trip.

Through the auspices of Health Volunteers Overseas, Daniel Mass, MD, and hand fellow Frank Corrigan, MD, treated hand patients in Lima, Peru. This was Dr. Mass’ 12th volunteer trip to Peru. Hand problems in this country range from carpal tunnel to complex untreated traumas and congenital hand anomalies. Drs. Mass and Corrigan were able to perform approximately 20 procedures, including three pollicizations, several muscle transfers for brachial plexus palsies, trauma reconstructions after crush injuries as well as tendon transfers for nerve palsy. Dr. Mass also trained local physicians interested in hand surgery. Topics ranged from rheumatoid arthritis, tendon transfers, wrist arthroscopy, distal radius fractures, trauma reconstruction and replantation.

A couple of times a year, Valluvan Jeevanandam, MD, travels to a charity hospital in Pithapuram, India for two to three weeks providing cardiac surgery with an emphasis on complex cases. On these trips, he typically performs about 20 charity cases per week. Without Dr. Jeevanandam’s help, most patients cannot afford the care they need, often face a life expectancy of less than one year and have no other treatment options. Additionally, Dr. Jeevanandam trains local surgeons to do these complex cardiac surgeries so they can better serve their communities.

Wickii Vigneswaran, MD, completed a surgical mission in Addis Ababa, Ethiopia where he stayed for 10 days and performed 13 major thoracic procedures in February 2009. During this trip, he also trained the local surgeons in bronchoscopy and gastrointestinal endoscopy with the equipment donated by his team to the Addis Ababa University Hospital. As the President of the International College of Surgeons of the U.S. section, he had spearheaded two other surgical missions to the Kurdistan area of Iraq as well as the mountainous villages of Bolivia.
The University of Chicago Department of Surgery has received generous contributions that sustain and cultivate our clinical, research and educational programs. Supporters of the Department help us advance surgical care and knowledge through the realization of our aspirations and priorities, such as development of the latest technologies, tissue engineering, cancer, regenerative medicine and further research into the basic biology of surgical disease.

We would like to thank our corporations, foundations and individual donors for their extraordinary generosity in support of our academic programs. In fiscal year 2009, some of the Department’s major donors include:

The Brain Research Foundation
The Brinson Foundation
The Foley Family Foundation
Mr. James Frank
The Michael Rolfe Pancreatic Cancer Foundation
Judy and Wayne Lewis
Mr. James P. McHugh
Mr. Earl Meltzer
Mrs. Rita Meltzer
Mr. and Mrs. John B. Snyder
Mr. Harry Staffileno

Opportunities for giving include patient care programs, designated research projects, fellowships and named professorships. This year, we were able to honor two of our distinguished faculty with named professorships, including David Frim, MD, PhD, Ralph Cannon Professor of Neurosurgery, and Raphael C. Lee, MD, ScD, DSc (hon), Paul S. and Ailene T. Russell Professor of Surgery.

We look forward to another full year of outreach activities, which will include the University of Chicago Phemister Surgical Society annual alumni reception, Discovery and Impact programs, trustee hosted dinners, tours, CME courses and lectures. If you’d like more information about one of these events or how you can make a difference to help educate the next generation of leaders, develop advanced treatments and offer hope to those in need, contact either:

Don Sourhada
Director of Major Gifts
University of Chicago Medical Center
donsourd@medicine.uchicago.edu
(773) 834-2929
http://sparkdiscovery.uchicago.edu

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Section Reports 2009
The Section of Cardiac and Thoracic Surgery draws upon a tradition of innovative clinical practice and scientific research to provide the highest level of patient care. The Section continues to be a leader in minimally invasive surgery. The clinical faculty provide treatment to the most complex patients, with particular specialization in heart and multi-organ transplants, ventricular assist device implants, complex cardiac reconstruction, minimally invasive vascular and arrhythmia surgeries, malignancies and esophageal diseases, as well as high-risk pulmonary resection and lung transplantation.

**Section Highlights & Accomplishments**

- Ranked among the top 25 programs for heart surgery by U.S. News & World Report for three consecutive years running.
- Participated in an exclusive clinical trial for the HeartWare device, a third generation ventricular assist device, providing the most cutting-edge treatment to patients with heart failure and became the seventh center in the country to implant the device.
- Received certification from the Joint Commission as a center for destination ventricular assist device therapy, making it one of about 75 centers nationally.
- Submitted an application to start an ACGME accredited Thoracic Residency program in conjunction with Evanston Hospital of NorthShore University HealthSystem.
- In coordination with the UCMC Center for Transplantation, surgeons from the Section now go to Evanston Hospital to see and evaluate potential transplant candidates.
- Initiated the University of Chicago Aortic Specialty Team (UCAST) in conjunction with the Section of Vascular Surgery and Endovascular Therapy. UCAST offers referring physicians and outside hospitals 24/7 access to specialists able to assist in complex aortic emergencies.
- Submitted proposals for two National Institutes of Health R01 grants.
- Valluvan Jeevanandam, MD, was appointed a full member of the FDA Cardiovascular Devices Panel, which serves as recognition of the level of expertise he holds in this arena.
- Shahab Akhter, MD, served as co-organizer of the first annual Cardiovascular Research Day at the University of Chicago to highlight research on developing novel therapies for heart disease.

**Faculty Listing**

- **Valluvan Jeevanandam, MD**
  - Section Chief
  - Professor of Surgery
  - Professors of Surgery:
    - Mark Ferguson, MD
    - Jai Raman, MD, M Med, PhD
    - Wickii Vigneswaran, MD
  - Associate Professor of Surgery:
    - Mahesh Gupta, PhD
  - Assistant Professor of Surgery:
    - Shahab Akhter, MD

- **Mark Ferguson, MD**
  - was elected as an Honorary member of the Colegio Brasileiro de Cirurgia Digestiva, appointed to the CTSNet Board of Directors, and elected President of the International Society for Diseases of the Esophagus.
- **Mahesh Gupta, PhD**, and his research lab have been focused on heart failure research; their hard work is evident through four publications over the past year in journals such as Molecular Cellular Biology and Journal Biological Chemistry. Most recently, he published the paper “SIRT3 blocks the cardiac hypertrophic response by augmenting the Foxo3a-dependent anti-oxidant defense mechanism of cells” in the Journal of Clinical Investigation. His work has received national attention.
- **Shahab Akhter, MD**, served as co-organizer of the first annual Cardiovascular Research Day at the University of Chicago to highlight research on developing novel therapies for heart disease.
- **Shahab Akhter, MD**, has articles accepted in journals including the Annals of Thoracic Surgery, Circulation and the Journal of Thoracic and Cardiovascular Surgery.
The Section of General Surgery is a nationally and internationally recognized leader in the surgical management of patients with complex diseases, including cancers of the esophagus, stomach, pancreas, liver, biliary tree, colon and rectum; endocrine disorders (thyroid, parathyroid, pancreas and adrenal glands); pancreatitis; benign and premalignant esophageal disease; inflammatory bowel disease; and morbid obesity. Section faculty provide state-of-the-art treatment, including laparoscopic, robotic and endoscopic surgical approaches. In every instance, the Section partners with skilled medical colleagues to offer multidisciplinary, multimodality treatment plans.

Research is the underpinning of the Section’s commitment to delivering advanced treatments. Dedicated investigation in cancer and metastasis; epithelial pathobiology; immunology/inflammation; tissue biology, bioengineering and imaging, all provide the platform to move innovations from the laboratory to the patient’s bedside. The Section maintains a national presence in seminal clinical trials to improve treatment for patients with complex diseases, including pancreatic, esophageal, gastric, colorectal and rectal cancers; as well as inflammatory bowel disease.

Education is the foundation of the Section’s academic mission. The Section’s educational efforts, interactive training in advanced surgical techniques with the only surgical ethics fellowship in the U.S. This fosters a healthy environment for patients seeking a surgical opinion by providing education and discussion on the gamut of options for each individual’s clinical situation.

**General Surgery**

**Alessandro Fichera, MD**, was promoted to Associate Professor of Surgery and elected President of the Chicago Society of Colon and Rectal Surgeons

Successfully implemented the ACGME-approved colon and rectal surgery fellowship that provides state-of-the-art training in both benign and malignant disorders of the colon, rectum and anus. The program had its first fellow in July 2009.

**Roger Huntz, MD**, was named to the American College of Surgeons’ Surgical Education and Self-Assessment Program Authoring Committee (14th Edition)

In concert with oncology colleagues, **Mark Mckeon, MD**, initiated the only program in Chicago for cytoreductive surgery combined with hyperthermic intraperitoneal chemotherapy for patients with disseminated intradominal cancer due to metastatoma, and cancers of the colon and appendix.

**Konstantin Umanskiy, MD**, initiated a program utilizing Transanal Endoscopic Microsurgery (TEM) for the management of patients with low-lying rectal cancer

**Edwin L. Kaplan, MD**, received the Oliver Coppe Memorial Achievement Award from the American Association of Endocrine Surgeons for his contributions to endocrine surgery. He is the fifth individual honored since the awards inception in 1985.

**Peter Angelos, MD**, was elected to a three-year term as Secretary and Treasurer of the American Association of Endocrine Surgeons

**Stephen Wyers, MD**, was selected by the surgical residents for the Robert J. Baker Award for Excellence in Teaching.

Received continued funding from the Michael Rolfe Pancreatic Cancer Foundation to support the research of **Kevin Roggin, MD**, **Eugene Choi, MD**, **Rosie Xiao, MD**, and Mitchell C. Posner, MD, in early detection and prevention of pancreatic cancer.

**Kevin Roggin, MD**, was inducted as a Fellow in the University of Chicago Pritzker School of Medicine Academy of Distinguished Medical Educators. He also presided over the First Annual Gastrointestinal Cancer Symposium on Innovations in the Multidisciplinary Treatment of Pancreatic Cancer.

**Eugene Choi, MD**, received funding from the University of Chicago Cancer Research Foundation to support his research in pancreatic cancer metastasis.

**Vynec Prachand, MD**, was elected President of the Illinois Association of Bariatric Surgeons; was appointed Director of the Bariatric Surgery Program, and leads the Bariatric Surgery Center of Excellence, the first center in Chicago designated by the American Society of Metabolic and Bariatric Surgery.

**Jeffrey B. Matthews, MD**, was the Annual Residents’ Research Day Visiting Professor at the University of Alabama, Birmingham and was named the Bruce White Memorial Lecturer at Indiana University.

**Mitchell C. Posner, MD**, was named President-Elect of the Society of Surgical Oncology and was elected a member of the Surgical Oncology Advisory Council of the American Board of Surgery.
The Section of Neurosurgery builds upon its rich legacy of excellence in clinical care, research and education. The faculty use their clinical expertise and advanced neurosurgical technology to provide the most effective and up-to-date treatment for the entire spectrum of neurosurgical disease, including: neurovascular surgery, neuro-oncology, surgical epilepsy, spinal surgery, pediatric neurosurgery, as well as functional and stereotactic neurosurgery.

Along with delivering the best medical care, the Section is actively involved in clinical and basic science investigations in order to create new knowledge that will advance the fields of Neurosurgery and the Neurosciences.

**Section Highlights & Accomplishments**

Ranked among the top 19 Neurosurgery/Neurology programs by U.S. News & World Report (July 2009)

David Frim, MD, PhD, was named the Ralph Cannon Professor in November 2008

Recruited Ben Z. Roitberg, MD, a neurosurgeon with expertise in all areas of spine surgery; including the surgical treatment of disc disease, stenosis, myelopathy, radiculopathy, instability, lower back pain and other spine problems. He also specializes in peripheral nerve entrapments, tumors and injuries, as well as tumors of the spine and brain, neurological trauma and neurovascular conditions.

The Brain Tumor Center continues to offer a coordinated, multidisciplinary approach to the care of adult and pediatric patients with tumors of the central nervous system

The Pediatric Neurosciences Center in Comer Children’s Hospital has united physicians and nurses from neurosurgery, neurology, neuro-oncology and neurogenetics to treat pediatric neuro-disorders, emphasizing hydrocephalus and congenital anomalies of the nervous system, epilepsy, and brain and spine tumors

As of July 1, 2009, two of our Neurosurgery residents have been rotating at NorthShore University HealthSystem as part of an academic affiliation between The University of Chicago and NorthShore. This has proven to be a great partnership and will continue to build on the educational needs of the residents. They are training with four of our faculty affiliates at the Evanston Campus. The Neurosurgery Residency Program continues to educate a group of physician-scientists who will advance the future of academic neurosurgery and make a lasting contribution to the care of neurosurgical patients.

Research continues to be an important aspect of the Section. Most recently two of our faculty were awarded new R01 grants from the National Institutes of Health: Maciej Lesniak, MD, for “Regulatory T Cell in Malignant Glioma” and Bakhtiar Yamini, MD, for “NF-kB1-p50 in the Response to DNA Methylation Damage”

Javad Hekmat-Panah, MD, was honored as a fellow of The University of Chicago Pritzker School of Medicine Academy of Distinguished Medical Educators in October 2008

The University of Chicago Department of Surgery
**Ophthalmology and Visual Science**

The Section of Ophthalmology and Visual Science provides comprehensive medical and surgical treatment of eye diseases. Some of the services they offer include: cataract surgery with lens implantation, transplantation of corneal diseases plus refractive surgery, vitreo-retinal surgery, special treatment of diabetic retinopathy and age-related retinal degenerations, eye plastic surgery, strabismus surgery and neuro-ophthalmology.

**Section Highlights & Accomplishments**

*Susan Ksiazek, MD,* is working with medical students on a glaucoma screening project sponsored by Sight Savers.

Lourana Schaftel, OD, received the 2009 ICO Alumni of the Year award and was included in the distinguished practitioner listing of the National Academies of the Practice. She was also selected as one of the “Top 10 Females at the Forefront of Optometry” by the Review of Optometry Journal.

*Marcus Marcet, MD,* has teamed up with OHNS and Neurosurgery to develop a comprehensive Orbital Tumor Center that provides highly-skilled ophthalmic diagnostic and surgical care to patients.

*Seenu Hariprasad, MD,* was inducted into the Retina Society. He was also promoted to Associate Professor. He continues to actively participate in various research and educational endeavors of the Section.

*Steven Shevell, PhD,* was the invited lecturer and speaker at various national and international meetings including Color Group of Great Britain, National Taiwan University, Color Association of Taiwan, University of California Irvine and the Vision Society. He also received continuous R01 funding from the National Eye Institute for his work in studying central and peripheral mechanism of visual adaptation.

*Micah Greenwald, MD,* received the New Investigator Award from the NIH Genetics of Eye Disease Conference.

*Rima McLeod, MD,* was named a Fellow for the Institute for Genomics & Systems Biology.
Orthopaedic Surgery and Rehabilitation Medicine

The Section of Orthopaedic Surgery and Rehabilitation Medicine strives to inspire colleagues to create new knowledge, communicate knowledge through medical education, and provide superior and compassionate health care in a collegial atmosphere. The Section continues to be a cohesive academic unit with a full-time clinical and basic science faculty dedicated to the care of patients, and the education of students, residents and fellows, as well as the creation of new knowledge in the clinical and basic science of musculoskeletal diseases.

Section Highlights & Accomplishments

Robert Balicki, MD, organized an orthopaedic review course for the University of Chicago pediatric residents. He was also an invited lecturer on “Growth Plate Injuries” for the Midwest Podiatry Conference.

Rodrick Bristow, MD, was a faculty contributor for the 16th Annual Primary Care Orthopaedic Course chaired by Shewin Ho, MD, at the Drake Hotel in Chicago.

Henry Finn, MD, was named Chairman of Surgery at Weas Memorial Hospital in February 2009. Additionally, the Finn KneeTM was recognized as one of the most significant advancements in orthopaedics by the American Academy of Orthopaedic Surgeons, AOSS News, Vol. 2, Number 10, October 2008.

Purnendu Gupta, MD, continues to be active in the Scoliosis Research Society. He is an editor for The Spine Journal, Clinical Biomechanics, The American Journal of Sports Medicine, and The Archives of Physical Medicine and Rehabilitation.

Rex Haydon, MD, PhD, was an American Orthopaedic Association ABC Traveling Fellow for 2009. The ABC Fellowship is the most prominent traveling fellowship in orthopaedics and serves to identify the future leaders of the specialty and acts as a catalyst to accelerate their careers.

Tong-Chuan He, MD, PhD, mentors a large number of students, residents, physicians and post-doctoral fellows. Dr. He continues to build the very successful, internationally renowned translational research program.

Shewin Ho, MD, traveled with his fellow and nurse to Beijing as a guest of the Chinese government, where he operated on Zhao Ruirui, the middle blocker on China’s Olympic women’s volleyball team and their most popular player. The story of the surgery received coverage by the Chinese media. Dr. Ho continues to be the team physician for Concordia University, the Missouri Dance Academy and USA Volleyball.

J. Marin Leland III, MD, serves as a consultant with the Philadelphia Phillies and has been working with the Chicago Blackhaws, Concordia College and numerous local high schools.

Hue Lou, MD, received the Orthopaedic Research Society Career Development Fellowship Award at the 2009 Annual Meeting in Las Vegas. He was invited as a speaker at the National Institute of Health Pediatric Oncology Branch in Bethesda, MD, giving a talk on “Understanding the pathogenesis and metastasis of osteosarcoma.” He also presented at the first International Forum on Orthopaedics in Chengping, China.

David Manning, MD, continues in his leadership role for resident recruitment. Dr. Manning continues to be invited at local and national meetings to teach minimally invasive hip and knee replacements.

John Marrall, MD, is Director of the Orthopaedic Biomedical Imaging Institute at Weiss Memorial Hospital. He also established a new collaboration with the Academic Network for Consolritional Hip Outcomes Research to develop software that standardizes the pre- and post-operative interpretation of clinical pelvic radiographs.

Daniel Marx, MD, volunteered in Lima, Peru with his fellow, Frank Corrigan, MD through the auspices of Health Volunteers Overseas. He was reappointed to the American Association of Orthopaedic Surgeons Bone and Joint Decade Committee as well as the American Society for Surgery of the Hand Program Committee.

Terrance D. Peabody, MD, was voted Favorite Faculty Member by the University of Chicago Pritzker medical students. He continues in his role as the Academic Leadership Chairman for the American Orthopaedic Association.

Bruce Reider, MD, continues as team physician for the University of Chicago athletes and as the editor of the American Journal of Sports Medicine. He is also the leader of the University of Chicago Orthopaedic Journal Club.

Michael A. Simon, MD, continues in his role as the Associate Dean of Graduate Medical Education and Designated Institutional Official of the institution. He completed his second year as Chairman of the Board of Trustees for the Journal of Bone and Joint Surgery. He was named Secretary of OMeGA, a non-profit LLC for distributing OMeGA grants from industry. He was Visiting Professor at Case Western Reserve as the Carter Mckinley Lecture in November 2008. He was also Visiting Professor at Oregon Health Science University in February 2009.

Christopher Sullivan, MD, continues his busy pediatric practice at the University of Chicago and his many off-site clinics. He reviews clinical articles for Clinical Orthopaedics and Related Research.

Brian Toolan, MD, was named to the Mid-America Orthopaedic Association Education Committee. He is the assistant editor for the Current Concepts & Topical Reviews Committee, First and Ankle International. Dr. Toolan is also on the Evidence-based Task Force for the AOFA. He achieved Maintenance of Certification from the American Board of Orthopaedic Surgery this past year.
The Section of Otolaryngology-Head and Neck Surgery (OHNS) performs complete diagnostic evaluations to determine the cause and extent of the full range of Ear, Nose and Throat (ENT) disorders and treats patients using the most advanced surgical and non-surgical techniques. The Section offers comprehensive services in the area of ENT, with subspecialties in chronic nasal and sinus disorders, otology, head and neck cancer, minimally invasive surgery, allergies, hearing aid dispensing, and speech language and voice disorders.

The past year proved to be busy for the Section. The surgeons performed 2,100 cases and conducted over 19,000 patient visits in the clinic. Last fall, the Accreditation Council for Graduate Medical Education (ACGME) surveyed the Section’s residency program. The site visit was a testament to the strength of the program and resulted in full accreditation. The Section’s Head and Neck Cancer surgery team prepared and hosted an educational event highlighting the detection, diagnosis and treatment of head and neck cancer tumors. The event occurred in the Summer of 2009.

In May 2009, the Section held its annual Fernandez-Lindsay Lecture. This year’s lecturer was Tobias Moser, MD. The annual lecture honors Cesar Fernandez, MD, and John R. Lindsay, MD, two very accomplished figures in the world of Otolaryngology. This year, the Section also established the Annual Alumni Lecture series that was held in the Fall of 2009. The inaugural lecture was given by Gregory Matz, MD, a graduate of the program and former Chair of Otolaryngology at Loyola University Health System.

**Section Highlights & Accomplishments**

- Ranked among the top 24 ENT programs in the country and the best in Illinois by U.S. News and World Report (July 2009)
- Minimally invasive skull base resections continue to be refined with neurosurgical colleagues
- Head and neck cancer surgeons have applied multimodality treatment and reconstruction for patients with recurrent head and neck cancer
- Kerstin Stenson, MD, in conjunction with colleagues in Plastic Surgery, continues to refine resections and reconstructions for patients with recurrent cancer and complex radialed wounds
- Daniel Martin, PhD, and Jerome Tayy, MD, are conducting research to compare clinical and histopathologic diagnoses of four common benign vocal fold lesions
- Elizabeth A. Blair, MD, continues the development of the High Risk Oral Cancer Clinic and has ongoing clinical trials of novel technologies for early detection of oral cancers
- Dana Suskind, MD, is initiating studies regarding a child’s sound environment while continuing to grow the pediatric cochlear implant program
- The residency program received full ACGME accreditation
- Preliminary contributions by residency graduate and friends helped to establish the annual Alumni Lecture series
- Audiology obtained new ENG equipment allowing for technologically advanced balance and vestibular testing
- Jayant Pinto, MD, is initiating studies in genetics of olfactory dysfunction
- Robert Naclerio, MD, and Faud Barzawy, MD, are conducting research into mitochondrial deletions in presbycusis
- Adam Markaryan, PhD, and Raul Himomo, MD, are investigating the role of neurotransfence in the symptoms of rhinosinusitis
- The Cochlear Implant program is promoting outreach activities aimed at reaching children with hearing loss
The Section of Pediatric Surgery at the University of Chicago Comer Children’s Hospital continues to provide comprehensive care for diverse surgical problems in infants and children. This includes congenital, neoplastic, infectious and other acquired conditions of the gastrointestinal system, the blood and vascular system, the integument, the diaphragm and thorax (exclusive of heart), the endocrine glands, the genitourinary system, and the head and neck.

The Section continues to be the national and international leader in minimally invasive pediatric surgery and continues to extend its reach to the western and northern suburbs.

**Section Highlights & Accomplishments**

Instituted a new multidisciplinary program to treat Median Arcuate Ligament Syndrome (MALS). The Physician Resource Nurse works closely with Radiology to schedule 3-D Imaging and CT Angiography for patients who call in regards to the potential disorder. If these screening tests show that the patient has MALS, then pediatric surgeon Donald Liu, MD, PhD, works with vascular surgeon Christopher Skelly, MD, to surgically treat the condition through a minimally invasive technique where the ligament restricting the artery is released. The program grew rapidly in the spring, following a story on ABC Channel 7 News that highlighted two patients who recently had the procedure. Patients with negative test results are referred to the gastroenterology team for further evaluation. Over a three month period, the Section evaluated more than 50 patients for the disease and surgically treated fifteen.

Research efforts in the Section continue to move forward. Michael Morowitz, MD, presented “A Novel Pathogenic Mechanism for Necrotizing Enterocolitis” at the Plenary Session, representing the work of senior investigators, Donald Liu, MD, PhD, and John Alverdy, MD, at the 4th Annual Academic Surgical Congress of the Society of University Surgeons and the Association for Academic Surgery. Only the top abstracts are selected for presentation at the Plenary Session.

Michael Morowitz, MD, and Michael Caplan, MD, of NorthShore University HealthSystem, received the NorthShore University HealthSystem/University of Chicago Collaborative Pilot Award from the University’s Institute of Translational Medicine for research on “High-throughput Analysis of Intestinal Bacterial Gene Expression in Necrotizing Enterocolitis.” Dr. Morowitz was also selected as the SIS Foundation Junior Faculty Research Fellowship Award Recipient for a second year.

Expanded service and outreach to the northern suburbs by establishing a partnership with NorthShore University HealthSystem to cover the pediatric general surgery service. The Section officially started providing on-call coverage to NorthShore on July 1, 2009. In addition to providing on-call services, the Section will also open a pediatric surgery clinic in Evanston to not only see post-operative patients but to provide consultations to patients referred to the group.
Plastic and Reconstructive Surgery

The Section of Plastic and Reconstructive Surgery strives to provide compassionate and superior healthcare, advance plastic surgery through research and innovation as well as train the future leaders of plastic surgery in a collegial setting. The Section provides a broad range of surgical services to people suffering from the compromising effects of injury or disease as well as to those wishing to modify a certain physical feature. This includes the field of complex microsurgical reconstruction of the head/neck, extremity and breast.

As Midwest leaders in reconstructive microsurgery, the Section not only offers one of the top Plastic Surgery residency training programs in the country, but offers a prestigious one-year fellowship in complex microsurgical reconstruction. This, coupled with internationally recognized faculty and the addition of our partnership with the NorthShore University HealthSystem Division of Plastic Surgery, has placed The University of Chicago Section of Plastic and Reconstructive Surgery as a premier program known for innovation, education and clinical excellence.

Section Highlights & Accomplishments

David H. Song, MD, MBA, graduated from The University of Chicago Booth School of Business in March earning a MBA. He also received the prestigious Arthur G. Michel award for clinical excellence in the treatment of breast cancer patients given annually by the Breast Cancer Network of Strength (formerly Y-Me). He was invited as a Visiting Professor to the Korean Society of Plastic and Reconstructive Surgeons.

Lawrence J. Gottlieb, MD, received the traveling Visiting Professorship given by the American Society of Plastic Surgeons.

Russel R. Reid, MD, PhD, was inducted as a faculty member to the AO and also received the Kometheplast/ASCFS Craniofacial Research Grant Award and the PSEF Basic Research Grant Award.

Julia Few, MD, became the first president of the Illinois Society of Plastic Surgeons and was inducted as a board member to the American Society of Aesthetic Plastic Surgery.

Julie E. Park, MD, initiated a protocol looking at enhancing results from breast reconstruction in the face of radiation therapy.

Raphael C. Lee, MD, ScD, DSc (hon), was inducted into "The Drexel 100," Drexel University’s Hall of Fame honoring its most distinguished alumni. Dr. Lee is only one of 190 Drexel University and Drexel University College of Medicine alumni to ever receive this honor.

Laura A. Casas, MD, was named President of the Aesthetic Surgery Education and Research Foundation as well as the Breast Section Editor of the now indexed Aesthetic Surgery Journal.
The Section of Transplantation has expertise in the areas of kidney, liver and pancreas transplantation as well as complex surgical procedures involving multi-organ transplants, hepatobiliary and vascular access surgery. With a long-standing history of firsts in transplantation, the Section continually seeks out innovative ways to advance the science of transplantation. The Section is a large component of the UCMC Transplant Center, which in March 2008 received full, unconditional accreditation from the Centers for Medicare and Medicaid Services for all solid organ programs. The UCMC Transplant Center is one of only a few centers in the nation that have transplant programs for all solid organs.

Considered a leader in the field, the Section has vast experience in complex transplants and is the most experienced multi-organ transplant center in the country. The Section has performed the first successful heart/liver/kidney transplant in the world in addition to being the first program to successfully perform a heart/kidney/pancreas transplant. The University of Chicago is the first and oldest living donor liver transplant program in the world. Twenty years after the first living donor liver transplant patient, the Section continues to offer this option to children and adults. As a result, patients who otherwise would not have had the chance of a transplant, either because of low MELD or the diagnosis of Hepatocellular carcinoma, have found new life thanks to living donation.

Section Highlights & Accomplishments

Opened the University of Chicago Transplant Evaluation Program at NorthShore University HealthSystem, offering evaluation and ancillary testing for patients requiring solid organ transplants by experienced transplant surgeons, transplant cardiologists, hepatologists, nephrologists and pulmonologists.

Offers laparoscopic liver surgery, a minimally invasive option for most patients, especially those requiring a left lateral hepatectomy. Some benefits include a shorter hospital stay, faster return to normal activity and less scarring.

Recruited Roger Sciammas, PhD, to help expand our research on the role of B cells in transplant rejection and tolerance.

Research efforts are currently directed at an IRB-approved clinical trial involving islet cell transplantation supported by state funding.

Involved in multiple clinical trials to find better immunosuppressant medications and to open transplantation options to broader populations, such as those living with HIV.

Anita Chong, PhD, was co-organizer and invited plenary speaker at the New York Academy of Sciences and Chinese Academy of Medical Sciences Conference on Regenerative Medicine in Beijing. She was also an invited international speaker at the Transplantation Society of Australia and New Zealand Annual Meeting and Post-Graduates Course as well as an invited speaker and scientist at the Transplant Programs of Westmead Hospital, University of Sydney, St. Vincent’s Hospital Melbourne and University of Auckland.

Emily Ahmed, PhD, was an international plenary speaker on multiple facets of TLR in transplantation biology and an invited speaker to the Beaux Seminar in Transplant Research in France.

Features an accredited Abdominal Transplant fellowship with the American Society of Transplant Surgeons. This two-year fellowship provides intense training dedicated to kidney, pancreas and liver transplants.

Audrea Troutman, PhD, and Emily Ahmed, PhD, won the Charles B. Huggins Research Symposium Oral Presentation for students, residents and fellows.

Audrea Troutman, PhD, received a minority student travel scholarship to the Keystone Meeting and for the 96th Annual Meeting for the American Association of Immunology.

Using autologous islet transplants to treat patients with chronic, hereditary or recurrent acute pancreatitis that has been unresponsive to other medical and surgical treatments.

Actively involved in ethics programs within and outside of the Medical Center to improve the field of transplant ethics.

Partnering with other local hospitals to improve access to transplant in those areas that have an underserved patient population.
The Section of Urology at the University of Chicago is the premiere comprehensive program for urologic cancer in Illinois. The Section treats more patients with prostate, bladder and kidney cancer than any other institution in Illinois. With one of the leading urologic cancer institutions in the country, the Section offers the most experienced minimally invasive laparoscopic and robotic cancer surgery program. The surgeons manage patients utilizing a multidisciplinary approach including medical and radiation oncology, radiology, pathology, stoma therapy, sexual function rehabilitation and psychology. The multidisciplinary team runs multiple clinical trials for the management of high risk and advanced urologic cancers.

The Section of Urology at the University of Chicago has four programs of distinction with national and international acclaimed leaders in their fields: urologic cancer, adult robotic and laparoscopic surgery, pediatric robotic surgery (Mohan Gundeti, MD), and reconstructive and female urology (Gregory Bales, MD).

The basic science laboratories continue to pioneer research involving the scientific mechanisms of cancer metastasis as well as the molecular events involved in bladder cancer formation and progression. The Section is fortunate to have added a new area of basic scientific research concerning stem cells to the scope of its urologic research.

Section Highlights & Accomplishments

Mohan Gundeti, MD, performed the first robotic augmentation ileo-cystoplasty and catheterizable stoma in pediatric urology. He now has a series of six patients who underwent a similar procedure and is a world leader in pediatric robotic surgery.

Recognized as a Society of Urologic Oncology Fellowship site three years ago, the Section expanded the fellowship to two fellows a year and is one of the most sought after fellowship programs in the country.

Started a number of clinical trials evaluating the radical cystectomy population including collaborations with Geriatrics, Anesthesia and the Hospitalists.

Gregory Zagaja, MD, organized and conducted a national annual course for the Board review in Urology.

Recruited Donald J. Vander Griend, PhD, a prostate cancer biologist from Johns Hopkins University whose research focuses on human prostate stem cells as they relate to prostate function, carcinogenesis and disease progression. Dr. Vander Griend is the new Director of Urological Stem Cell Research.

Gary Steinberg, MD, heads the Uro-Oncology Clinical Research Fellowship Program. He is one of the world’s leaders in the treatment of bladder cancer. He is the scientific Chairman of the Bladder Cancer Advocacy Network, and was the Chairman and director of the 4th Annual Bladder Cancer Think Tank meeting in Summer 2009.

Arieh Shalhav, MD, is one of the world leaders in laparoscopic and robotic surgery. He performed a robotic radical prostatectomy for prostate cancer that was transmitted live from the University of Chicago to the largest urologic robotic surgery course in Orlando, Florida in April 2009. He was elected as the president of the World Congress of Endo-Urology to be held in Chicago in September 2010.

Arieh Shalhav, MD, and Gary Steinberg, MD, were invited to participate in the 17th Annual ASEAN Urology conference in Ho Chi Minh City, Vietnam. Drs. Shalhav and Steinberg helped develop and organize the meeting. They also volunteered and operated at the Bin Dahan Urologic Hospital in Ho Chi Minh City, performed surgery for the surgical workshop for the ASEAN meeting and spoke on innovations in surgical and medical therapy of bladder, kidney and prostate cancer. This was a special occasion for the Vietnamese urologists in that this was the first time the meeting was being held in Vietnam. Both Drs. Shalhav and Steinberg were honored volunteers and participants in this important event in Vietnamese Urology history.
The Vascular Surgery Fellowship Program received ACGME re-accreditation through June 2013. Future plans include incorporating a formal rotation at Weiss Memorial Hospital in order to enhance the vascular surgery training experience. The Section is preparing to transition to a 0-5 residency training program paradigm with NorthShore University HealthSystem in 2011.

Section Highlights & Accomplishments

- Utilizes state-of-the-art, non-invasive vascular laboratory for reliable detection and quantification of arterial and venous disease as well as advanced operative and endovascular interventions
- Manages complex forms of thoracoabdominal aneurysms utilizing hybrid approaches (debranching of visceral, renal and arch vessels, and aortic stent grafting)
- Extensive experience with endovascular technologies, including stenting, stent grafting, angioplasty, plaque excision and clot dissolution to treat thoracic and aortic aneurysms, carotid stenosis and lower extremity ischemia
- Hisham Bassiouny, MD, received FDA approval to use the da Vinci Surgical System in vascular surgery; was elected as a member of the International Relations Committee of the Society for Vascular Surgery; and presided and organized the Joint Session for the Society of Vascular Surgery/Society of Vascular Ultrasound at the Annual Society of Vascular Surgery meeting.
- Christopher Skelly, MD, received the AVA-Lifeline Award which will provide supplemental funding to his NHLBI Mentored Clinical Scientist Development Award (K08) that funds his research on Herpes Simplex Virus therapy for the treatment of neointimal hyperplasia
- Tina Desai, MD, was named Vice-Chair of the Institutional Review Board

The Section of Vascular Surgery and Endovascular Therapy has a history of achievements in patient care, education and research in peripheral vascular disease. The Section’s faculty is involved in the evaluation and management of patients with a spectrum of complex arterial and venous disorders. These include carotid and peripheral arterial, mesenteric and renal occlusive disease; thoracic, abdominal, visceral and aortic aneurysms; venous disorders and hemodialysis access. In addition to conventional open repairs, the Section offers state-of-the-art minimally invasive interventions.

The basic science laboratories have pioneered research in the inception and progression of atherosclerosis, imaging the vulnerable carotid plaque, biomechanical forces in atherosclerotic plaque disruption, the role of hemodynamic forces in molecular mechanisms underlying restenosis and intimal hyperplasia, and novel therapeutic agents to prevent or inhibit bypass graft failure and vascular restenosis. Longstanding collaborations with Argonne National Laboratory, the University of Illinois and the University of Akron have culminated in NIH funded research in realistic simulation of biomechanical forces in the normal and diseased vasculature.

The Section has created the new Vascular Institute of Chicago at Weiss Memorial Hospital. The Vascular Institute includes University of Chicago and Weiss Memorial Hospital vascular attendings Hisham Bassiouny, MD; Tina Desai, MD; Giancarlo Piano, MD; Christopher Skelly, MD; and Daniel Katz, MD. The Institute encompasses a full-spectrum, vascular surgery inpatient and outpatient clinical practice. It offers both open surgical and endovascular treatment options, the ICAVL-accredited, non-invasive vascular laboratory and the University of Chicago Vein Clinic at Weiss. The Vein Clinic, directed by Giancarlo Piano, MD, offers state-of-the-art, non-invasive testing and innovative treatment plans including microphlebectomy, vein injection sclerotherapy, vein stripping ligation and a relatively new treatment option known as VNUS® closure (radiofrequency ablation).
## Current Residents, Fellows and Graduates

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<tr>
<th>RESIDENT/FELLOW</th>
<th>NAME</th>
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<td>Dharmesh Vyas</td>
<td>5</td>
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<tr>
<td>Resident</td>
<td>Thomas O'Dwyer</td>
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<tr>
<td>Resident</td>
<td>Orthopaedic Oncology</td>
<td>David Greenberg</td>
<td>6</td>
</tr>
<tr>
<td>Resident</td>
<td>Sports Medicine</td>
<td>E. Jeffrey Pope</td>
<td>6</td>
</tr>
</tbody>
</table>
### Orthopaedic Surgery and Rehabilitation Medicine

**Fellow - Joint Replacement**
- Yasser Fadda

**Resident**
- Alfred Atanda (Graduate 2009)
- Matthew Beal (Graduate 2009)
- Matthew Carilli (Graduate 2009)
- Frank Carrigan (Graduate 2009)
- Joshua Snydeg (Graduate 2009)
- Suleman Hussain (Graduate 2009)
- Alfred Atanda (Graduate 2009)
- Matthew Beal (Graduate 2009)
- Matthew Carilli (Graduate 2009)
- Frank Carrigan (Graduate 2009)
- Joshua Snydeg (Graduate 2009)

### Plastic Surgery

**Resident**
- Riddhi Patel
- Kristal Wiener-Kentoma
- Christian Sorber
- Victoria Yanga
- Andrea Rath
- Jonathan Sherman
- David Brown
- Asiim Khamad
- William Johnson
- Alexander Langenmann
- Mike Bhagini
- Jrakki Eswari

**Fellow**
- Eric Odessey
- Michael Dewolfe
- Khaled Hamzeh
- Juan Barreto-Andrade
- Emily Bellowance
- Eva Galka
- Rohit Sharma
- Reynold Lopez-Soler
- Bejon Maneckshana
- Inbo Shim

### Otolaryngology-Head and Neck Surgery

**Resident**
- Raddi Patel
- Kristal Wiener-Kentoma
- Christian Sorber
- Victoria Yanga
- Andrea Rath
- Jonathan Sherman
- David Brown
- Asiim Khamad
- William Johnson
- Alexander Langenmann
- Mike Bhagini
- Jrakki Eswari

**Fellow**
- Aziz Merchant
- Erika Newman
- Grace Mak

### Pediatric Surgery

**Resident**
- Lee Allanick
- Sam Fuller
- Jonathan Bank
- Grant Klein
- Matthew Groom
- Ting Nappern
- Sara Dickie
- Justin Lee
- Aaron Feller
- Michelle Houghton
- Daniel Rose
- Ira Saltz
- Lucio Perone

**Fellow**
- Asef Dastani
- Crandall Microsurgical Fellowship, Johns Hopkins University, Baltimore, MD

---

**Urology**

**Resident**
- Cassandra Royce
- Joshua Cohn
- Charles Chang
- Okopomo Fumakimwa
- Nyle Kiriak
- Alexandre Roun
- GaganJayram
- Marcelo Orieta
- Michael Large
- Mark Ville
- Sapna Arora
- Aimen Witz
- Lambda Mccone
- William Reynolds
- Todd Delkaj
- David Lifshitz
- Mark Katz

**Fellow**
- Heather Hall
- Timothy Wu
- John Carson

**Plastic Surgery**

**Resident**
- Eric Odessy
- Michael Odell
- John O’shea

**Fellow**
- Khadiq Naz
- Juan Barreto-Andrade
- Emily Bellowance
- Eva Galka
- Rohit Sharma

**Surgeon Oncology**

**Fellow**
- Reynold Lopez-Soler
- Bejon Maneckshana
- Inbo Shim

**Transplant**

**Resident**
- Cassandra Royce
- Joshua Cohn
- Charles Chang
- Okopomo Fumakimwa
- Nyle Kiriak
- Alexandre Roun
- GaganJayram
- Marcelo Orieta
- Michael Large
- Mark Ville
- Sapna Arora
- Aimen Witz
- Lambda Mccone
- William Reynolds
- Todd Delkaj
- David Lifshitz
- Mark Katz

**Fellow**
- Heather Hall
- Timothy Wu
- John Carson

**Vascular Surgery**

**Resident**
- Lee Allanick
- Sam Fuller
- Jonathan Bank
- Grant Klein
- Matthew Groom
- Ting Nappern
- Sara Dickie
- Justin Lee
- Aaron Feller
- Michelle Houghton
- Daniel Rose
- Ira Saltz
- Lucio Perone

**Fellow**
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ANIMAL RESOURCES CENTER
Marek Niezdek, DVM

CARDIAC AND THORACIC SURGERY

GENERAL SURGERY


Edelin Kaplan, MD


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Fiachna PM, Pati MG. The evolution of oesophageal function testing and its clinical applications in the management of patients with oesophageal disorders. Dig Liver Dis 2009.


Glen Gardner, MD


Carrie Rinker-Schaeffer, PhD


Shikanov S, Zorn KC, Shalhav AL. Robotic lymphadenectomy is associated with shorter hospital stay, reduced blood loss, and lower readmission rates compared to open radical retropubic prostatectomy. J Urol. 2009;181(2):647-52


