The purview of surgery is sweeping. Integral to care across chronic disease and acute illness or injury, addressing virtually every body part, system, and organ, surgery is central to treatment and recovery for millions of patients each year.
In the United States, the history of modern surgery has largely been defined by Johns Hopkins. Here William Halsted designed a surgical training program that remains the gold standard today; here the first post-operative intensive care unit (ICU) was created; here neurosurgery was born. Our record is one of uninterrupted medical innovation.

Today, Hopkins is the premier institution where patients want to receive surgical care, where surgical faculty want to spend their careers, and where students come to learn from the best in the field.

What does it take to maintain excellence?
Maintaining excellence is a dynamic process. In order to continue in our role as a national, and global, leader in Surgery, we must continuously improve our methods of educating new surgeons and surgical researchers, continuously advance the science underlying surgical care through cutting-edge research, continuously upgrade our facilities and resources to represent the state of the art, and continuously re-evaluate and improve our organization so as to best support patient care and scientific quests. For the world to look to Hopkins for leadership in Surgery, innovation must be a daily pursuit.

Research has proven, time and again, that patient care is more successful when it is provided in collaborative, multidisciplinary settings. Echoing this approach, biomedical research increasingly draws together expertise from multiple inter-related areas; gone are the days of the research “silo” and sole investigator pursuing an individual research agenda. The Department of Surgery at Hopkins supports best patient care and most productive
they had learned were limited by patient flow. Evaluation, based on an educator’s assessment of the learner’s competence, was largely subjective.

Simulation is overturning this model. In simulation-based learning, each student learns at his/her own pace. Students practice until they achieve competence, not just during specified clinical hours. Learning is largely self-directed, but also guided and mentored—blending the best of both worlds. Web interfaces make learning interactive, and allow content to be continuously updated based on latest research findings. Evaluation employs standardized, objective criteria.

Simulation has distinct advantages over traditional educational methods. Students learn skills without placing patients at potential risk. Medical errors are recognized when they occur, and rectified as critical “teaching moments.” Through practice in a safe simulated environment, students become better prepared for the operating room. And the use of animals is reduced.

We propose an enhanced Center for Advanced Surgical Education and Simulation. Next steps in its development are to: build a collaborative team that possesses multidisciplinary skills, expand our simulator capability, better integrate the Simulation Center with the Minimally Invasive Surgical Training and Innovation Center (MISTIC), develop the medical curriculum so that simulation is embedded in surgical training, conduct simulation validation and outcomes research to determine the impact of this new teaching approach, hire a full-time Simulation Educator, and protect dedicated faculty time.

Across these divisions, the Department coordinates many assets—people, knowledge and ideas, skills, facilities, and resources. To provide optimal, comprehensive patient care and catalyze scientific progress, collaboration must be our modus operandi.

The Department of Surgery seeks to promote innovation and collaboration by providing a solid foundation of support for our faculty and research staff, creating state-of-the-art facilities and resources, and enhancing education for our surgical students, fellows, and other learners.

In academic medicine, endowed professorships are coveted and prestigious positions. They afford academic freedom and flexibility, and are thus an important institutional strategy for advancing the frontiers of research, and thereby for improving patient care. These positions enable us both to recruit world-class physician/scientists to Hopkins, and to better support and retain our most talented faculty. In this way, we can build our “human capital”—our primary asset. Endowments are a direct investment in our most outstanding surgeons and their work.

Endowments also support fellows who, having completed residency, seek specialized training. Our programs, and the caliber of our faculty mentors, attract candidates from around the world. We offer fellowships in surgical oncology, hepatobiliary, endocrine, breast, trauma, and minimally invasive surgery. We are continuously enhancing our educational offerings, which include special lectures, surgical simulations, and multiple other programs. It is through sustaining our preeminence in education, training, and dissemination that Hopkins can have a maximum impact on the quality of surgical care throughout the United States and worldwide.

LEVERAGING TECHNOLOGY TO CREATE AN OPTIMAL LEARNING ENVIRONMENT

New educational technologies are ushering in a dramatic shift in surgical training. Traditional training relied upon didactic lectures interspersed with practice in the clinical setting—a “see one, do one, teach one” model. Students’ opportunities to practice what they had learned were limited by patient flow. Evaluation, based on an educator’s assessment of the learner’s competence, was largely subjective.

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In medical research, “talent” describes a unique alchemy in which intelligence, knowledge, insight, dedication, and sheer hard work combine to yield discovery—that is, the breakthroughs in understanding, or the inspirations about possible methods, that lead to significant improvements in patient care. We continuously scan the horizon for individuals who possess this rare sort of talent.
**BRINGING COMMUNITY-BASED CARE TO A NEW LEVEL OF EXCELLENCE**

Founded in 1773, the Johns Hopkins Bayview Medical Center has a long history of community service. Initially an almshouse, it evolved into an asylum, then a municipal hospital. In 1984, the city of Baltimore transferred ownership of the hospital to Johns Hopkins.

The Department of Surgery at Bayview offers comprehensive surgical care, including general surgery, bariatric surgery, burn surgery, surgical oncology, thoracic surgery, and vascular surgery. Clinical programs are complemented with a wide array of research, including studies on wound healing, tumor vaccine development, obesity, diabetes, endovascular techniques, surgical outcomes studies and surgical simulation.

**Creating Infrastructure to Accelerate Research**

The execution of research entails far more than purely scientific activity. Staffing allocation, contractual agreements, budgeting, IRB submissions and communications, research management, regulatory compliance, data management and security, and preparation and submission of publications are all vital functions intrinsic to research today, yet ones for which many faculty lack either time or training.

The concept of the Center for Surgical Trials and Outcomes Research (CSTOR) is that Hopkins research could be vastly expedited by a centralized infrastructure that assists faculty with the multitude of research-related tasks. Serving investigators in the Departments of Surgery and Plastic and Reconstructive Surgery, CSTOR supports a broad spectrum of research studies that aim to improve surgical care, explore cutting-edge concepts and methodologies, and influence policy-making. Among its resources, CSTOR maintains an external website, internal research portal, share point and other networking sites, manual of operations, and research information portal. Faculty members each can receive 50 free hours of biostatistical/epidemiological services per year, and ten free hours of data management services. CSTOR also runs, in conjunction with the Bloomberg School of Public Health, a Surgical Faculty Mentoring Program.

**WHY JOHNS HOPKINS?**

The name, “Johns Hopkins,” is equated with excellence. As a patient, there is no better place in the world to come for surgical treatment. For twenty-one years, U.S. News & World Report consistently ranked Johns Hopkins hospital as America’s best. We attract the best and brightest medical students, residents, and fellows, many of whom choose to remain at Hopkins after training. Our research programs trace the full trajectory of disease—from processes at the cellular and molecular levels to operative strategies and techniques; the caliber of our research is evident in multiple scientific and clinical breakthroughs.

The Department of Surgery at Hopkins is vast, and its track record is unrivaled. Despite this formidable strength, we function collegially. Since 1893, our faculty have collaborated closely in research, teaching, and patient care—always focused on benefiting medical science, our students, and our patients.

Given this demonstrated quality and results, the more reasonable question is, “Why anywhere else?”

**How You Can Help**

In the words of Johns Hopkins Surgeon in Chief, Julie Ann Freischlag, “Even with the paucity of federal research dollars available in these trying financial times, we are doing all we can to secure the funding we need to guarantee that tomorrow’s health challenges can be met head-on.”

In rising to meet these challenges, partnerships with philanthropists who share our visions of ever-better surgical methods, and our commitment to providing the best possible surgical care to patients, are of critical importance. Philanthropic gifts—which honor our donors and bring their dreams to fruition—are, quite simply, our most successful strategy for advancing surgical capacities at Hopkins. These are the funds that allow us to endow chairs for our most brilliant and dedicated surgeons and surgical researchers, acquire new equipment and technologies for providing state-of-the-art care to patients, construct facilities that create an optimal environment for education and scientific discoveries, and lead the field with transformative research.
Rising to the Challenge:  
The Campaign for Johns Hopkins  
The Johns Hopkins Department of Surgery  
Fund for Johns Hopkins Medicine  
100 North Charles Street, Suite 422  
Baltimore, Maryland 21201  
410-516-6252  
rising.jhu.edu