

Discovery to Recovery

CLINICAL AND RESEARCH HIGHLIGHTS AT HSS | SUMMER 2007

HOSPITAL
FOR
SPECIAL
SURGERY



HSS Nursing Excellence Recognized with Magnet Award

First hospital in New York to be redesignated

Recognizing Hospital for Special Surgery's exemplary nursing leadership and high quality patient care, the American Nurses Credentialing Center (ANCC) has awarded the institution Magnet Recognition for Excellence in Nursing Service. Special Surgery first achieved Magnet status in 2002 and was redesignated in 2007. "With nursing shortages a nationwide issue, HSS has demonstrated consistently that it has a workplace environment conducive to attracting and retaining exceptional registered nurses," says Louis Shapiro, President and CEO.

A Satisfying Work Environment

Empirical evidence collected by the ANCC in the early 1980s identified common threads between health care institutions that were able to recruit and retain nurses. These organizations exhibited a clinical culture in which well-qualified nurses found both professional and personal satisfaction. From these studies emerged the 14 Forces of Magnetism that encompass the Magnet Recognition Program. The Forces characterize elements of a Magnet work environment such as quality of nursing leadership, organizational structure, and professional development. Established in the 1990s, the Magnet Recognition Program promotes high quality care, identifies excellence in the application of care by nurses, and provides a way in

which to highlight the best nursing practices. "At HSS, we're committed to nurse education and the practice environment in order to deliver the best possible care to our patients," says Stephanie Goldberg, Vice President of Patient Care Services and Chief Nursing Officer. Special Surgery's vacancy rate of 2 percent for RNs is well below the national average of 11 percent.

Demonstrating Magnetism

HSS is one of only 238 health care organizations nationwide that have received Magnet Recognition, the nursing profession's highest honor. To achieve this coveted designation, an institution must exhibit the ways in which it meets the concepts outlined by the Forces of Magnetism. An organization seeking re-designation endures an even more challenging process because the ANCC requires documented evidence of how the concepts of Magnet were sustained over the four year period since the organization first received the award. Beginning in April 2005, Patricia Quinlan, DNSc(c), MPA, RN, Director of Nursing Education, Quality, and Research, in collaboration with Ms. Goldberg and other nursing leaders, penned more than 200 pages in which they described in detail how the 14 Forces were consistently incorporated into the nursing service and the effect each has had on successful patient outcomes. "The ambition to cultivate a Magnet prac-

tice environment and maintain Magnet status is a characteristic of nurses who work at HSS," Ms. Quinlan remarked. "Magnet designation is the tangible evidence of the nurses' commitment to provide the very best care within their field of practice."

The completed application was submitted in July 2006. Appraisers from the ANCC performed an extensive on-site evaluation of HSS as well as a number of interviews to verify that the Magnet-defined concepts for nursing excellence were evident. In January, Special Surgery was the first hospital in New York City to be re-designated by the Commission on Magnet Recognition.

Leisha Bedenbaugh, RN, BSN, Clinical Nurse III, exemplifies the excellence of Special Surgery's nursing staff.

Nurse Residency Program

The Commission highlighted Special Surgery's peri-operative nurse residency program as an exemplar that uniquely characterizes the institution. Established under the leadership of Ms. Goldberg, the program was created to innovatively augment the existing staff complement of nurses practicing in the operating room. Offered to new graduates as well as experienced nurses, the training program begins with a concentrated didactic and practice lab conducted in a full scale replica of the operating room environment. Each of the 25 clinical modules builds on basic patient care principles and

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Leading the Way in Biomechanics Research



Timothy Wright, PhD, F.M. Kirby Chair in Orthopedic Biomechanics (page 7), and his colleagues in the Department of Applied Biomechanics in Orthopedic Surgery are focused on improving implant materials for younger, more active patients (page 5).

Our Mission

A Premier Clinical Environment

Hospital for Special Surgery has entered a dynamic and exciting period of growth. A major modernization and expansion of our clinical facilities is underway, and we have begun to see the first fruits of our labor: the creation of a state-of-the-art Ambulatory Surgery Center, along with the construction of a brand new inpatient unit. As you will learn in this issue of *Discovery to Recovery*, the new spaces have been designed to create a clinical environment that is not only technologically advanced and highly efficient, but comfortable, inviting, and safe for patients and their families.

These new facilities are populated with the world's premier medical professionals devoted to orthopedic and rheumatological care. Not only are our physicians recognized internationally for excellence in their fields, but our Nursing Department was recently singled out for its excellence by the the American Nurses



Thomas P. Sculco, MD



Stephen A. Paget, MD

we applaud these critical caregivers for the integral role they play in the delivery of medical care at this institution.

New Leadership

We have recently welcomed fresh new talent to our leadership team during this momentous period in HSS history who are lending their expertise and seasoned experience to shaping our expansion.

Joining us last summer as President and Chief Executive Officer is Louis A. Shapiro, who came to Special Surgery from Geisinger Health System, where he served as

Credentialing Center for Magnet recognition, the nursing profession's highest honor. It is the second time that our nursing staff has been recognized in this way – Special Surgery first achieved Magnet status in 2002 – and

Executive Vice President and Clinical Enterprise Chief Operating Officer. Working closely with the medical staff and our Board of Trustees, Mr. Shapiro is playing a superb role in stewarding the Hospital's growth while ensuring financial stability, fostering innovation among our staff, and reaching out to our partners on York Avenue, nationally, and globally.

Steven R. Goldring, MD, who joined us as Chief Scientific Officer last spring, has been working actively to transform the organization and structure of how research is conducted at Special Surgery into a series of disease-oriented initiatives. Enhancing and expanding clinical research is a major goal of the institution, and these initiatives are designed to encourage the kind of collaboration between basic and clinical research that will further new ways of understanding, treating, and preventing disease and injury.

Looking Forward

As patients from around the world seek our expertise in increasing numbers, the physical expansion of Special Surgery continues to meet the growing demand for premier medical care. As we continue this

exciting program of expansion – including new inpatient operating rooms, physician offices, expanded rehabilitation centers, a new sports rehabilitation and performance center, and a new children's pavilion – we remain exceptionally grateful to the many friends and donors who have provided the key resources that enable us to lead the fields of orthopedics, rheumatology, and their related disciplines. With groundbreaking basic and clinical research underway, new clinical programs that are enhancing the care we can provide to patients, and the continued confidence of our supporters, HSS is well poised for the future.

Sincerely,

Thomas P. Sculco, MD
Surgeon-in-Chief and
Medical Director

Stephen A. Paget, MD
Physician-in-Chief

Scientific Update

Core Center is One of Only Five in the Nation

Hospital for Special Surgery has once again been designated a Musculoskeletal Repair and Regeneration Core Center (MRRCC) by the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), making it one of only five such centers in the country.

Led by Adele Boskey, PhD, who holds the Starr Chair in Mineralized Tissue Research at HSS, and her co-director, HSS Associate Scientist Nancy Pleshko Camacho, PhD, the center focuses its research on the repair and regeneration of bone and cartilage and other soft tissues, critical to our understanding of osteoporosis, osteoarthritis, and other significant bone diseases.

The Core Center is broken down into different Research Cores: Analytical Microscopy, Mechanical and Material Assessment, and Musculoskeletal Imaging. A fourth division, Applied Statistics, coordinates study design and the evaluation of data.

An International Resource

“Being a Core Center guarantees us access to topnotch equipment and allows us to recruit premier researchers,” Dr. Boskey said. That, in turn, aids in the Core Center's primary mission: to support cutting edge research studies that bring

together experts from a variety of disciplines – from biology to engineering to neurology – to pursue studies using a multidisciplinary approach.

According to Dr. Boskey, 28 HSS researchers currently work with the Core Center. They work alongside experts from Weill Cornell Medical College and from Cornell's Graduate School of Medical Sciences, and the Biomedical Engineering Program in Ithaca. Researchers also come from farther afield. “We have people from all over the US, from England and France,” said Dr. Boskey. “They come here because we offer things that no one else has.”

She cites the Core Center's infrared imaging capabilities in particular. “We are one of the only sites that offer infrared imaging, which provides information on molecular structure at the micron level. Such information is critical for assessing how diseases modify tissue as well as the efficacy of current therapeutics in correcting these changes.” That technology greatly assisted the work of Weill Cornell Medical College neurologist M. Elizabeth Ross, who drew on the Core Center's resources to develop mathematical models of altered bone density. Current research includes HSS Assistant Scientist Christopher Chen's study of the role of genetics in cartilage degradation after an injury, which, it's hoped, will shed some light on the causes of osteoarthritis. ●



Scientists Nancy Pleshko Camacho, PhD (left), and Adele Boskey, PhD (right), are the co-directors of Special Surgery's Musculoskeletal Repair and Regeneration Core Center, one of only five such centers in the United States.

Understanding Enzymes and Rheumatoid Arthritis

The prestigious scientific journal *Nature Immunology* has published the latest study by Hospital for Special Surgery Senior Scientist Carl Blobel, MD, PhD, who is also Program Director of the Arthritis and Tissue Degeneration Program. The study, whose lead author was HSS Associate Scientist Gisela Weskamp, PhD, identifies an enzyme that appears to play a pivotal role in the development of rheumatoid arthritis as well as allergic reactions and other serious health problems. Identifying that enzyme and understanding how it works may very well lead to new and more effective treatments for rheumatoid arthritis (RA), a painful, often debilitating condition that afflicts an estimated 2 million people.

A Search for “Scissors”

For some time now, allergy and arthritis researchers have implicated a protein known as CD23 as a primary culprit, because elevated levels of CD23 in the bloodstream have been linked to allergic reactions and to rheumatoid arthritis. Take a mouse that doesn't have CD23, said Dr. Blobel, and you will find that it is protected from RA. But the problem is not CD23 itself. It is where it is found.

When CD23 is anchored to the membrane of a cell, it regulates the action of an allergy-inducing antibody, called immunoglobulin E (IgE). That's a good thing, said Blobel. It means fewer allergic reactions and asthma attacks. But when CD23 is cut loose from the cell, it can stir up trouble and exacerbate allergic reactions and rheumatoid arthritis. Dr. Blobel and his team wanted to know what was cutting CD23 loose. They



Senior Scientist Carl Blobel, MD, PhD, and Associate Scientist Gisela Weskamp, PhD.

had several suspects, enzymes that he refers to as, naturally, scissors.

“There were eight different scissors that we were looking at,” said Dr. Blobel, “but which one was doing the cutting? If you have a bunch of potential suspects, how can you know which ones are the real perpetrators? We didn't know if it would be one or several. We didn't know what we would find, but we felt we had put together the best set of tools to reach an answer.”

It would take three years to positively identify the guilty enzyme, known as ADAM10.

ADAMs, also known as sheddas, are a family of enzymes that Dr. Blobel, who joined HSS in 2004, has studied for the past fourteen years, paying particular attention to their role in tissue degeneration and regeneration, rheumatoid arthritis and angiogenesis, or the formation of new

blood vessels. The cutting that they do, Dr. Blobel said, is a vital means of cell-to-cell communication. For example, they help regulate the activity of the epidermal growth factor receptor (EGFR), which influences, among other things, the healing of wounds and the development of cancer.

Process of Elimination

Because there are so many ADAMs at work in the body, it couldn't easily or quickly be determined which were involved in allergic reactions. The approach that Dr. Blobel and his team devised began with a painstaking process of elimination, using a variety of “knockout mice.” Such mice are bred without a

particular gene or enzyme so that researchers can study the effect of its absence on physical functions. In this case, they needed to determine which ADAMs cut CD23 from a cell and released it into the bloodstream.

“There were eight ADAMs that we were looking at, so we needed knockout mice for each,” Dr. Blobel explained. “No one else had this collection of mice and cells to do this in such a comprehensive way.”

After extensive lab work – a collaborative effort between HSS, Virginia Commonwealth University, the pharmaceutical companies GlaxoSmithKline, Celltech, Schering Plough and Amgen, and others – Dr. Blobel positively identified his culprit: ADAM10. Further experimentation revealed that ADAM8 and ADAM33 could also cut CD23 but only when they were introduced in abnormally large amounts. Only ADAM10 was capable of cutting CD23 at its normal levels. Though ADAMs had long been suspects, it was Dr. Blobel's work that settled the question.

“The data,” said Dr. Blobel, “was as convincing as it gets in biological experiments.”

So, what does all this mean for prevention and treatment of RA?

“It gives us another target to pursue,” said Dr. Blobel, “potentially as

good a target as TNF (tumor necrosis factor), on which many current treatments are based. In the context of RA, several papers over the last ten

years have named CD23 as a major target as well. Many groups were therefore hunting this down, and so we were delighted to be the first to identify the scissors for CD23, and to have our work published in *Nature Immunology*.” ●



HSS Partners With Cornell University on Outcomes Study

Researchers at Hospital for Special Surgery will soon begin a long-term, comprehensive study on patient outcomes following total joint replacement surgeries at HSS. The study is funded by a five year, \$5 million grant awarded to Weill Medical College of Cornell University by the federal Agency for Healthcare Research and Quality. HSS and Weill Cornell Medical College have been designated a Center for Education and Research on Therapeutics (CERT), with HSS focusing on total joint arthroplasty. The study will be a collaborative effort between the Arthroplasty Service at

HSS and clinical researchers both at Special Surgery and Weill Cornell Medical College.

“This is one of the most competitive grants that HSS has ever received, and it shows that HSS is a nationally respected leader in total joint arthroplasty research,” said study co-investigator Lisa A. Mandl, MD, MPH, Assistant Attending Physician, who will be working closely with co-investigator Robert G. Marx, MD, MSc, Associate Attending Orthopedic Surgeon, and Surgeon-in-Chief Thomas P. Sculco, MD.

The grant was awarded in April of 2006, followed by months of planning

and pilot testing of the new study. Over 5,000 HSS patients will be enrolled annually beginning this year. Each will participate in follow-up surveys conducted six months, two years and five years after their initial surgery.

The researchers hope to learn why some patients do better than others following joint replacement surgery, as well as what factors influence the need for revision surgery. They also want to learn more about patients' expectations of surgery and their satisfaction with the results.

“This is a huge undertaking,” said Dr. Mandl. “We have a number of different departments working together,

including orthopedic surgery, clinical epidemiology, biostatistics, nursing, and physical therapy. Together, we will create a tremendously rich database which will be an invaluable tool for anyone doing research in this area. However, the real winners will be our patients, as the study will help physicians predict outcomes more accurately while allowing them to better prepare patients for what to expect following surgery.”

The study will allow prospective collection of data and will provide the Arthroplasty Service and HSS with one of the largest joint replacement registries in the world. ●

THE

HAPPENINGS AROUND THE HOSPITAL



New Treatments for Autoimmune Disorders ▲

A new discovery might mean patients with autoimmune diseases can be treated with an injection that could be given during a quick office visit, instead of enduring the current process of going to the hospital for a three-hour infusion.

For years, doctors have used intravenous immune globulin (IVIG) or antibody therapy to treat patients with diseases such as dermatomyositis, multiple sclerosis, and lupus, but just how the therapy works has remained a mystery.

A study, led by Lionel Ivashkiv, MD, Director of Basic Research at HSS, suggests that it's not the whole preparation itself, but the immune complexes within the preparation that are causing the therapeutic effect. Instead of using IVIG, which is pooled from thousands of blood donors, clinicians may be able to use small amounts of so-called immune complexes, or even design synthetic drugs that will avoid problems associated with using blood products.

Helping Pitchers Get Back in the Game >

When Dave Lipson, right, of Norwalk, Conn., had surgery to repair the torn medial collateral ligament in his elbow, he wasn't sure he would ever play baseball again. But the next year he went on to pitch in the minor leagues. He didn't realize he had joined an elite group.

In the largest study of its kind, HSS surgeons have determined that by modifying a classic ligament surgery, they can return more athletes, like Dave, to their prior level of competition. The modified surgery repairs a torn medial collateral ligament, which links and stabilizes bones of the lower and upper arm where they meet at the elbow.

Less traumatic than the classic Tommy John surgery, the modified surgery called the docking procedure, with time, is likely to become the gold standard for treating these injuries.

"This paper, in the largest series of patients ever published, shows that this particular operation in throwing athletes demonstrates better results than the classic operation," said David W. Altchek, MD, senior author and co-chief, Sports Medicine and Shoulder Service.



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From Special Surgery to Grey's Anatomy ▲

Chief of the Scoliosis Service Oheneba Boachie-Adjei, MD (right), and his patient, Krystle Eginger, were the inspiration for a January episode of ABC's *Grey's Anatomy*. In the episode, neurosurgeon Derek Shepherd, MD, played by Patrick Dempsey (above), straightens a severe curvature in the spine of an adolescent patient. In real life, Krystle was born with a congenital condition that caused a 90-degree curvature in her spine. After a number of unsuccessful surgeries, she met Dr. Boachie, who performed a complicated operation to remove the bent portion of Krystle's vertebrae, exposing the spinal cord. He replaced the



resected vertebrae with a titanium-mesh cage around the spinal cord and used bone grafts attached to what remained of Krystle's spine. To complete the surgery, Dr. Boachie inserted two steel rods to stabilize her spine. One week later, Krystle walked out of HSS with a straight spine. Dr. Boachie and the operation were originally profiled in *New York* magazine's 2005 "Best Doctors" issue.

PULSE



< A Mission to the Philippines

For the last nine years, HSS physicians and nurses have traveled to the Philippines to provide medical care to patients in need, under the auspices of Filipino American Medical Inc. (FAMI). Co-founded in 1999 by HSS nurse anesthetist Niles Perlas, CRNA, FAMI brings medical professionals to the Philippines to open free clinics, perform and attend surgeries, and present lectures and demonstrations at teaching hospitals. HSS anesthesiologists participating in the traveling medical team include James D. Beckman, MD, Chris R. Edmonds, MD, Michael C. Ho, MD, Andrew C. Lee, MD, David L. Lee, MD, Joseph A.

Oxendine, MD, Thomas J. Quinn, MD MBA, and Tyler Phillips, MD. Gregory A. Liguori, MD, Director of Anesthesiology at HSS, has also facilitated the donation of medical equipment to the missions, which have recently earned Ms. Perlas the prestigious Philippine Presidential Award for her part in founding this lifesaving outreach effort.

(More online [↗ www.hss.edu/d2r](http://www.hss.edu/d2r))



HSS Hosts Symposium Featuring World Renowned Geneticist ^

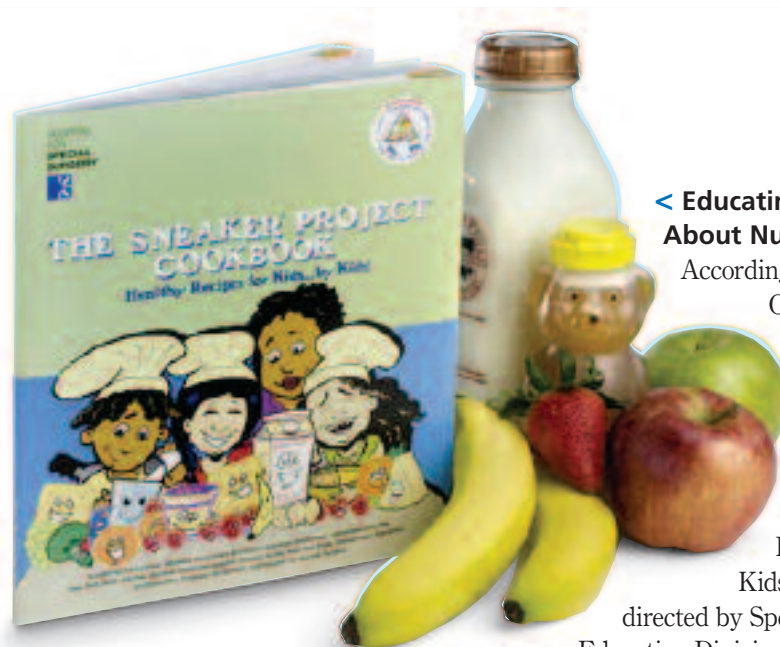
As part of a day-long program sponsored by the Kathryn O. and Alan C. Greenberg Center for Skeletal Dysplasias (see page 7), Victor McKusick, MD, a physician-scientist and professor at Johns Hopkins University, gave an overview of the history of skeletal dysplasias. Acknowledged widely as the father of medical genetics, Dr. McKusick has dedicated more than 50 years to studying these conditions. His contributions were recognized in 2002 when President George W. Bush presented Dr. McKusick with the National Medal of Science – the highest scientific honor nationally. Special Surgery's Education Division, in collaboration with Weill Medical College of Cornell University, hosts prominent medical professionals like Dr. McKusick as part of its Visiting Professor Lecture Series.



Improving Implants for Active Patients ^

Joint replacement is among the most valued treatments in orthopedics, relieving pain and restoring function when joints have been destroyed by trauma or disease. Nonetheless, all implant bearing surfaces wear, limiting the longevity of the replaced joint. "Wear is influenced by both structural and external factors, including patient weight and activity level," says Timothy Wright, PhD, F.M. Kirby Chair in Orthopedic Biomechanics. HSS surgeons and engineers are focused on assessing improved bearing surfaces such as metal-on-metal, ceramic-on-ceramic, and cross-linked polyethylene. "Ultimately," Dr. Wright explains, "the goal is to provide younger patients with low friction, low wear joint replacements to withstand their rigorous lifestyles."

(More online [↗ www.hss.edu/d2r](http://www.hss.edu/d2r))



< Educating Children About Nutrition

According to the American Obesity Association, more than 15 percent of children and adolescents are obese. SNEAKER, or Super Nutrition Education for All Kids to Eat Right, directed by Special Surgery's Education Division, aims to assist in the development of healthy eating habits by providing culturally sensitive nutri-

tional information to New York City's English, Spanish, and Chinese speaking children and their families. Administered by the New York State Attorney General, the program has reached over 2,000 children since its inception in 2003. The SNEAKER project's award-winning cookbook contains healthy recipes created by children who have participated in the program as well as facts about nutrition.

(More online [↗ www.hss.edu/d2r](http://www.hss.edu/d2r))

New Clinical Facilities Open

In January, Hospital for Special Surgery opened its new, state-of-the-art Ambulatory Surgery Center and welcomed patients to a new floor of inpatient rooms. “Our goal as healers is to revolve our care around the patient and focus on their recovery and rehabilitation, in the best tradition of patient-focused care,” says Thomas P. Sculco, MD, Surgeon-in-Chief. “Indeed, we must continue to improve upon the care environment for our patients.” The completion of the new clinical space marks the beginning of a multiyear expansion project that will add more than 200,000 square feet of new space and renovate over 100,000 square feet of existing space. With some 250,000 patient visits and more than 18,500 surgeries performed each year, the demand for specialized bone and joint care is greater than ever before.

State-of-the-Art ORs

By teaming up with nursing and medical staff, architects have designed the most advanced surgical facilities with cutting edge technology. Within the new ambulatory surgery center there exists private and semi-private holding areas for patients and their families that have greatly

enhanced patient flow from registration to recovery to discharge. Surgeons and staff can perform outpatient procedures in one of eight operating rooms. The brighter, more expansive surgical suites can accommodate more sophisticated equipment typically used for operations such as hip arthroscopy as well as for more routine outpatient procedures including knee and shoulder ligament repairs.

Audio/visual integration systems transmit live videos of surgeries that are in progress to monitors in other

The Ambulatory Surgery Center’s recovery area (below) and new patient rooms (right).



operating rooms and conference space within the Hospital, providing a valuable educational tool for staff physicians and visiting surgeons. Surgical booms suspend from the ceiling in each operating room to hold medical tools and equipment, replacing bulky carts and enabling physicians and staff to move equipment more freely around the patient for maximum coordination.



Moreover, dedicated elevator service between operating rooms on the ninth floor and Central Sterile Supply enhances Special Surgery’s already stellar infection control practices, with one elevator used exclusively for sterile linens and equipment.

Rooms With A View

Patient studies suggest that the recovery period following surgery is critical to long-term healing. The environment in which a patient heals also plays a measurable role in the speed with which a patient recovers. Stephen Paget, MD, Physician-in-Chief, says, “Our highest priority has been and always will be to care for our patients and return them to their normal, active routine as rapidly as possible.” Special Surgery opened a newly created 30-bed inpatient unit on the eighth floor which offers a number of amenities including a spectacular view of the East River. The expansive private and semi-private rooms feature large, eight-foot-tall windows, soft lighting, soothing artwork, and linens in natural colors. “It is a beautiful environment for patients to receive care,” says Stephanie Goldberg, Vice President of Patient Care and Chief Nursing Officer. ●

Special Surgery Welcomes Ethics Fellows

As a world leader in bone and joint care, Hospital for Special Surgery is committed to upholding the highest ethical standards of patient care. Thanks to the extraordinary philanthropy of a number of generous donors, Special Surgery has recruited Maya Rom, PhD, and Marilyn Martone, PhD, to hold the Hospital’s first endowed research fellowships in Biomedical Ethics. “While the original intent was to fund a single position such was our good fortune that two outstanding candidates emerged and two positions were made possible by the generosity of the fellowship’s benefactors,” says HSS internist-rheumatologist C. Ronald MacKenzie, MD, co-director of the fellowships. “The backgrounds and experience of our fellows are quite different but nonetheless complementary, and we are excited about the synergies that are emerging between them.”

Disability and Chronic Illness

Under the direction of Dr. MacKenzie and Joseph J. Fins, MD, Chief of Medical Ethics at New York-

Presbyterian Hospital, Dr. Rom and Dr. Martone are looking at ethical dimensions of chronic illness, its attendant disability and associated stigma, as well as problems associated with access to care.



Marilyn Martone, PhD (left), and Maya Rom, PhD (right).

“There has been little research looking at ethical issues in chronic disability from the patient’s perspective, particularly in terms of stigma,” says Dr. Rom, whose interest in medical ethics began while working in gene therapy research as an undergraduate. For 18 months, Dr. Rom will focus on issues surrounding patient’s disclosure of their illness, the visible and invisible effects of

chronic illness on patients and their families, and how having an illness that is chronically disabling affects a patient’s day-to-day life. “Access to care, meeting with doctors, and just getting around town are among the many ethical issues these patients are faced with each day,” she explained. “My goal while at HSS is to talk to them to find out what is going on in their lives and how they are coping with their illness long-term.”

A Personal Pursuit

Dr. Martone’s expertise lies in neurological issues surrounding disability, an interest that stems in part from an incident in 1998 when her daughter, Michelle, a senior at the University of Chicago, was struck by a car. The accident left Michelle unconscious for eight months and severely brain damaged. “I’ve experienced the stigma of how one minute all the school clubs wanted her and the next she was injured and society forgot about her,” she shared. “I’m interested in studying what happens to patients when physicians have nothing else to offer them in terms of medical treatment.” Dr. Martone, a professor of health care ethics at St. John’s University, is taking a six-month sabbatical to study the role of rehabilitation for patients with chronic conditions and the ethical issues that arise.

Finding the Best Care

A number of studies are under consideration. For instance, funding provided by the fellowships will facilitate collaborations between the fellows and staff at HSS to examine the length of time it takes for an average patient with a rheumatic condition to see a rheumatologist. Using HSS as a model institution that offers exemplary specialty care, the fellows will conduct patient surveys that highlight demographic factors such as income, age, and education to better understand issues of justice and access to health care.

For each of the studies, Dr. Rom and Dr. Martone will begin by interviewing 5 to 10 patients, with a goal to increase the pool to 50 or more patients. “We’re hoping to glean information from these initial studies that would lead to a deeper investigation,” explains Dr. Martone. “Since our time here is limited, we’re conducting studies that are smaller in scale so that we can acquire data that is meaningful,” added Dr. Rom.

Dr. Mackenzie concluded, “We are hopeful that we can make significant contributions to the understanding of these issues and believe that our patients, as well as those beyond the borders of our institution, will benefit from our work.” ●

New Funding Boosts Mary Kirkland Center for Lupus Research

Katherine and Arnold Snider, through their family foundation, Rheuminations, Inc., have provided a five-year \$7.1 million grant to renew their extraordinary commitment to the Mary Kirkland Center for Lupus Research at Hospital for Special Surgery. This grant represents the second cycle of funding provided by the Sniders, who established the Center in 2001 in memory of Mrs. Snider's mother, who suffered with lupus. Guided by the Sniders' vision of fostering collaborative research aimed at improving the lives of lupus patients, the Kirkland Center is focused on increasing understanding of the causes of the disease and accelerating progress towards the development of new therapies that will improve the treatment and quality of life of lupus patients while ultimately aiming to find a cure.

"It has been very rewarding to partner with everyone at HSS over these past six years," said Katherine Snider in announcing the gift. "But in particular of course those who have worked so hard to achieve the shared goals we have to improve the health and quality of life of those who live with lupus."

Deepening Expertise

"Special Surgery is honored to house the Kirkland Center, a unique investigative environment that has had a profoundly important impact upon the science of lupus and the lives of people who live with it every day," said Stephen Paget, MD, Special

A major strategic emphasis for the new funding cycle is to build on the Kirkland Center's strengths by deepening the expertise and extending the accomplishments of the Center's investigators in key thematic areas of lupus research. Those include the role of type I interferon in disease pathogenesis, the mechanisms leading to targeted organ damage, the factors associated with premature atherosclerosis, and the frequency and parameters associated with cognitive dysfunction. "Research efforts in these four areas have been very successful in leading to advances in understanding lupus and in leveraging funding from the National Institute of Health (NIH) and other peer-reviewed, competitive funding agencies such as the Alliance for Lupus Research and the Lupus Research Institute," said Peggy Crow, MD, Special Surgery's Director of Rheumatology Research and Co-Director of the Kirkland Center. In order to ensure the sustainability of the Hospital's lupus research program, another critical goal of the Kirkland Center going forward is to recruit both new and established investigators with an expertise in lupus to join the HSS faculty.

An Exceptional Partnership

"The Sniders have been true partners in developing the Kirkland Center and charting its future course," said Dr. Crow. "In addition to providing financial support, they have kept us on track and



Through their family foundation, Rheuminations, Inc., Katherine and Arnold Snider have provided vital support for lupus research.

Surgery's Physician-in-Chief and Co-Director of the Kirkland Center. "We are deeply grateful that Katherine and Arnold Snider have chosen to renew their invaluable support and look forward to taking lupus research to higher and even more productive levels of achievement."

have helped us to prioritize the most important activities and goals," Dr. Crow explained. "The Kirkland Center would not have achieved its level of success and achievement without their engagement and input." ●

(More online [↗ www.hss.edu/d2r](http://www.hss.edu/d2r))

New Chair in Biomechanics

In a powerful demonstration of its institutional commitment to biomechanics research, Hospital for Special Surgery has established the F.M. Kirby Chair in Orthopedic Biomechanics. Timothy Wright, PhD, Director of the Hospital's Biomechanics Laboratory, is the first scientist to be designated the holder of this presti-



Timothy Wright, PhD

gious chair named in honor of The F.M. Kirby Foundation, a long standing supporter of biomechanics at HSS.

"The Kirby Chair is a potent recruitment tool for senior and junior faculty," explained Dr. Wright. "It elevates the reputation of Special Surgery within the biomedical engineering community both in the United States and abroad and sends a strong signal to potential recruits

that the Hospital honors achievement in this important area." "In addition," Dr. Wright continued, "funding provided by the chair is critical for supporting the professional development of young faculty and the education of future bioengineers and surgeons, two activities that are top priorities of the lab." ●

HSS Radiologist Honored

For several years now, Radiologist Hollis G. Potter, MD, has been studying the effectiveness of MRI in imaging total joint replacements.

Now Dr. Potter, chief of the Division of Magnetic Resonance Imaging in the Department of Radiology and Imaging at HSS, is the first radiologist invited to join the Hip Society and is also its first female member.

In lauding Dr. Potter's nomination, Eduardo Salvati, MD, a former President of the Hip Society, noted, "She is well recognized by the membership of the Hip Society, and with their invitation they acknowledge her pioneering work to advance the diagnosis and treatment of a variety of hip conditions."

"I am honored to be named to this eminent group," said Dr. Potter. "This is recognition that hip surgeons, hip specialists, and radiologists collaborate to improve the overall care of patients suffering from hip related injuries and conditions." ●

Center Honors Benefactors

In 2003, Kathryn and Alan Greenberg helped to establish a specialized center for skeletal dysplasias at Hospital for Special Surgery after witnessing the success of a similar institution they helped to create at Johns Hopkins Hospital in Maryland. Thanks to their renewed support, the Center has been officially named the Kathryn O. and Alan C. Greenberg Center for Skeletal Dysplasias.

Skeletal dysplasia is an umbrella term for a group of more than 300 genetic conditions marked by abnormal bone growth and cartilage development.

Under the direction of HSS orthopedic surgeon Cathleen Raggio, MD, and Jessica Davis, MD, a medical geneticist at Weill Medical College of Cornell University, the Center provides interdisciplinary and coordinated care for pediatric and adult patients; conducts clinical research on the outcomes of the patients and basic research into the causation and prevention of the dys-



Jessica Davis, MD, and Cathleen Raggio, MD (right), examine Shams Khalil, one of the Center's patients.

plasias; and promotes awareness of these rare conditions through public and professional education.

Of this extraordinary gift, Mrs. Greenberg, a member of the HSS Board of Trustees from 1993 to 1998 and a Life Trustee since 1998, says, "The staff at the center has done a remarkable job at providing a holistic approach to care for patients with these conditions throughout the course of their lives. My husband and I feel that it is a very important area within the Hospital to continue to support." ●

(More online [↗ www.hss.edu/d2r](http://www.hss.edu/d2r))

Recognition from Around the World

Kudos

Major League Baseball has awarded **Stephen Fealy, MD**, and **Ronald Adler, PhD, MD**, a three-year, \$150,000 grant to study arterial flow in patients with rotator cuff tendinopathy and develop targeted treatment protocols. Co-investigators on the project are **Russell Warren, MD**, and **J.R. Rudzki, MD**.

Juliet Aizer, MD, MPH, received a one-year, \$30,000 award from the Consortium of Rheumatology Researchers of North America to study the predictors that lead to initiation of bone density screening in patients with rheumatoid or psoriatic arthritis.

Carl Blobel, MD, PhD, gave a plenary lecture at the American Society for Matrix Biology Meeting in October. He also spoke at the International Symposium on Regulated Intramembrane Proteolysis in Ringberg, Germany in November. The Leukemia and Lymphoma Society (through Weill Medical College of Cornell University) awarded Dr. Blobel \$114,558 to study CD138 protein shedding in multiple myeloma.

At the 41st Annual Meeting of the Scoliosis Research Society (SRS), **Oheneba Boachie-Adjei, MD**, received the Walter P. Blount Service Award, which honors individuals who act generously out of their sense of service to larger social and professional goals. The SRS has elected Dr. Boachie First Vice-President of the Society.

In January, **Adele Boskey, PhD**, served on an international evaluation panel in Stockholm, Sweden, reviewing research proposals focused on biomedical engineering for improved health. She was among eight panelists representing seven countries, including Holland, Britain, France, Denmark, Belgium, Norway, and the U.S. More recently, Dr. Boskey was appointed the Orthopedic Research and Education Foundation (OREF) representative to the American Academy of Orthopedic Surgeons (AAOS) Committee on Research, to serve from 2007-2009.

Nancy Pleshko Camacho, PhD, has received a five-year, \$141,633 award from the NIAMS in collaboration with the University of Medicine and Dentistry of New Jersey to study the contribution of architectural microfibrils to bone physiology.

Peggy Crow, MD, gave the presidential address at the American College of Rheumatology's annual meeting in November 2006. Dr. Crow served as Chair of a National Institute of Allergy and Infectious Diseases (NIAID) Special Emphasis Panel/Scientific Review Group.

The National Cancer Institute has named **Stephen Doty, PhD**, the recipient of a two-year, \$54,572 award through Our Lady of Mercy Medical Center to research curcumin, an ingredient found in Indian curry spices, as an inhibitor of prostate cancer bone metastasis. Dr. Doty has received a two-year, \$34,000 grant from the NIAMS in collaboration with Columbia University for the development of a multi-phased scaffold for soft tissue to bone integration. Additionally, the NIAMS has named Dr. Doty the recipient of a three-year, \$61,000 grant via the Research Foundation of the City University of New York, to study the role of fluid flow in bone's response to applied loading.

Mary Goldring, PhD, received a five-year, \$95,650 award from the NIAMS to research the role of the collagen receptor, discoidin domain receptor (DDR) 2, in osteoarthritis-like pathogenesis in osteochondrodysplasias. This award is part of a larger grant made to the Harvard School of Dental Medicine.

NIAMS invited **Steven Goldring, MD**, to participate in a roundtable discussion on psoriasis, psoriatic arthritis, and rheumatoid arthritis in February. Dr. Goldring also participated in a programmatic consultation on periodontal disease for the Immunology and Immunotherapy Program at the National Institute of Dental and Craniofacial Research.

Jo A. Hannafin, MD, PhD, received a three-year, \$1.1 million R01 grant from the National Institutes of Health to study the effect of mechanical stimuli on the structure and function of the anterior cruciate ligament in order to facilitate ACL repair, including tissue engineering approaches. In February, she was invited to serve on a National Institutes of Health (NIH) Skeletal Biology Structure & Regeneration study section as a four-year member.

Chisa Hidaka, MD, served as a grant reviewer for OREF in January and was invited to moderate the gene therapy session at the Orthopaedic Research Society meeting in February.

The National Institute of Child Health and Human Development has awarded **Howard Hillstrom, PhD**, a two-year, \$187,914 award to study the development of a geometric forefoot model as a tool for clinical decision-making.

The Alliance for Lupus Research has awarded **Kyriakos Kirou, MD**, a one-year, \$75,000 grant to study IFN-alpha pathway activation as a biomarker of disease activity in lupus.

Theresa Lu, MD, PhD, has received a five-year, \$1,956,190 grant from the NIAID to study lymphoid tissue microvessel growth.

In November 2006, **Robert Marx, MD**, was invited to speak at the Ontario Orthopedic Association Meeting in Toronto and at the *Journal of Arthroscopy and Related Surgery* associate editor meeting in Palm Desert, CA. In January, Dr. Marx gave the first annual Robert J. Johnson Sports Medicine lecture as a visiting professor of orthopedic surgery to the University of Vermont. Additionally, Dr. Marx completed a five-year term as a grant reviewer for OREF.

The New York Chapter of the Arthritis Foundation has awarded **Nikolas Papadimitriou, MD**, a one-year, \$75,000 award to study the molecular mechanisms of aseptic loosening in joint replacement.

The Association for Osteosynthesis Research Foundation has awarded **Bruce Rapuano, PhD**, a two-year, \$72,000 grant to study the role of prostaglandin E2 and BMPs in a model of ectopic ossification, a condition in which bone forms outside the skeleton. Co-investigators are **David Helfet, MD**, and **Joseph Lane, MD**.

Scott A. Rodeo, MD, received a four-year, \$1.4 million R01 grant from the National Institutes of Health to investigate tendon-to-bone healing.

The New York State Department of Health has awarded **Laura Robbins, DSW**, a one-year, \$60,000 grant for continued support for the osteoporosis prevention and education program targeting children and culturally diverse populations.

The NIH has awarded **Inez Rogatsky, PhD**, a five-year, \$1,966,185 grant to study mechanisms of immunosuppressive actions of glucocorticoids.

In May, **Jane Salmon, MD**, was awarded the Carol Nachman Prize, the largest international award for rheumatology

research, for her scientific contributions to understanding mechanisms of pregnancy complications and prevalence of atherosclerosis in patients with lupus and other rheumatic diseases. Dr. Salmon has received a five-year, \$1,920,930 grant from the NIAMS to advance her studies focused on the mechanism of antiphospholipid antibody-induced pregnancy loss.

Eduardo A. Salvati, MD, Nigel Sharrock, MB, ChB, Geoffrey Westrich, MD, Hollis Potter, MD, Alejandro Gonzalez Della Valle, MD and **Thomas P. Sculco, MD**, received the prestigious Nicolas Andry Award from the Association of Bone and Joint Surgeons for their study highlighting three decades of research on thromboembolic disease after total hip arthroplasty. The study was presented at the Association's April 2007 meeting.

Eduardo Salvati, MD, received the distinguished Lifetime Achievement Award from the New York chapter of the Arthritis Foundation.

Marjana Tomic-Canic, PhD, was appointed to the NIAMS study section focused on reviewing contracts for innovative therapies. Additionally, Dr. Tomic-Canic was invited to participate in a long range planning and priority setting panel on wound healing sponsored by the NIAMS.

Peter Torzilli, PhD, has received \$52,115 from the NIAMS for a two-year research fellowship for **Karla Wyatt** to promote diversity in health related research.

The Department of Orthopedics at Brown University's School of Medicine invited **Scott Wolfe, MD**, for Grand Rounds focused on avoiding complications of distal radius fracture management.

Timothy Wright, PhD, was invited to serve on the scientific advisory board of the In-Motion Institute, a non-profit musculoskeletal institute that is developing in Memphis, TN. Additionally, Dr. Wright was invited to speak at the combined meeting of the Knee Society and the American Association of Hip and Knee Surgeons at their February meeting held in San Diego.

Wei Zhu, PhD, received the New Investigator Recognition Award at the annual meeting of the Orthopaedic Research Society. Co-authors include **Bernard A. Rawlins, MD, Oheneba Boachie-Adjei, MD, Adele L. Boskey, PhD, Lionel B. Ivashkiv, MD, Carl P. Blobel, MD, PhD.** ●

Continued from page 1

skills learned with repetition, role playing, and critical thinking scenarios. Laboratory training is followed by experience in the operating rooms that affords participants an opportunity to incorporate theory with practice under the guidance of a dedicated educator and support of existing operating room staff.

At the end of the six-month program, the residents receive hospital certification in peri-operative services. To date, 20 RNs have graduated the program and successfully transitioned to the operating room practice environment. The OR nurse residency program has proved to be a vital recruitment strategy in a healthcare

environment of professional registered nurse shortages. The Commission identified the program as a model for nursing education nationally.

Collaborating at the Unit Level

One of the hallmarks of a Magnet organization is the collegial relationship within the interdisciplinary team that cares for patients. In line with Magnet's concepts for organizational structure is Special Surgery's interdisciplinary approach to patient care delivery. Daily planning of clinical care at the unit level and the nurse-physician collaboration allows for the most comprehensive course of care. "When the nurses at HSS

earned the Magnet award in 2002, it validated the team ethic that permeates HSS clinical care," says Physician-in-Chief, Stephen A. Paget, MD. "To receive this honor again is a clear indication that our nurses make it a priority to continue to provide excellence in caring for our patients."

"The award recognizes the extraordinary interplay of nurses with their health care counterparts across the continuum of care at this institution," added Surgeon-in-Chief Thomas P. Sculco, MD. "HSS nurses strive to remain at the forefront of their profession, and Magnet Recognition acknowledges their unwavering efforts." ●

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Our Patients

DANCING IN THE FOUNTAIN OF YOUTH



Americo Guerriero

"My wife says I can dance just as well as when I was 40 years old – if not better!" says 70-year-old Americo Guerriero, who danced to a very different tune just seven years ago. At the time, crippling hip pain severely limited Mr. Guerriero's mobility. He sought out Hospital for Special

Surgery and orthopedic surgeon Eduardo A. Salvati, MD, (see other side) who replaced Mr. Guerriero's deteriorating hip joints and returned him to his feet. "There's a natural apprehension when it comes to having surgery," says Mr. Guerriero, a retired restaurateur. "Dr. Salvati said all the right things to put me at ease, so I trusted him with this

operation." Mr. Guerriero credits the expertise he found in Dr. Salvati for enabling him to continue enjoying his passion for Latin and ballroom dancing. "Before Special Surgery, my quality of life was null. Now, I'm impressed with my ability to move as well as I can."

Our Physicians

A CAREER DEVOTED TO HEALING



Eduardo Salvati, MD

Internationally renowned hip surgeon Eduardo Salvati, MD, has made a lifelong commitment to caring for patients with hip osteoarthritis like Americo Guerriero (see other side), and advancing clinical and basic research in joint replacement. A native of Buenos Aires,

Argentina, Dr. Salvati came to Special Surgery as a hip fellow 38 years ago, under the direction of Philip D. Wilson, Jr., MD. Since then, he has received national and international recognition for his work aimed at refining hip replacement procedures and reducing the risk of complications following surgery. Dr. Salvati is a past president of the American Hip Society and past secretary-

treasurer of the International Hip Society. As director emeritus of the hip and knee service at Special Surgery, Dr. Salvati says the most rewarding aspect of his career is helping patients return to an active lifestyle. "It's wonderful to be able to restore mobility for patients who have lived with severe, disabling pain."