THE GAME CHANGERS at Hospital for Special Surgery.

THOUGHT LEADERS – authorities in musculoskeletal medicine who provide operational and clinical expertise to colleagues around the world.

INNOVATORS – physicians, scientists, and bioengineers who identify and develop new techniques, devices, technologies, and processes and protocols to improve patient care.

INVESTIGATORS – basic, translational, and clinical researchers whose work has the potential to change our understanding and treatment of musculoskeletal disorders.

EDUCATORS – orthopaedic surgeons who are not only mentoring and training future physicians in the field, but are also transforming professional education programs to keep pace with the ever-evolving specialty.
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In 2013, HSS orthopaedic surgeons performed more than 14,000 inpatient surgeries and over 15,000 ambulatory surgeries in the Hospital’s 35 operating rooms.
On July 1, 2014, Todd J. Albert, MD, became the 12th Surgeon-in-Chief of Hospital for Special Surgery, succeeding Thomas P. Sculco, MD. Dr. Albert, a world-renowned orthopaedic spine surgeon, previously served as Chairman of the Department of Orthopaedics and President of the Rothman Institute at Thomas Jefferson University Hospital in Philadelphia. He serves on the boards of several peer-reviewed journals and is past President of the Cervical Spine Research Society and past Chair of the International Meeting on Advanced Spine Techniques for the Scoliosis Research Society.

In the nearly six months since joining Hospital for Special Surgery, I have been increasingly awed by the depth of expertise and experience of the surgical faculty, as well as the commitment and dedication of staff throughout every area of the Hospital. The people of HSS share an amazing affection for this institution that is palpable.

As I expected, it has been an eventful few months getting to know the culture here and observing people at work in an environment that expects and demands excellence. Throughout this transition period, I have appreciated the support of Tom Sculco, who during his tenure as Surgeon-in-Chief furthered the Hospital’s standing in clinical, scientific, educational, and global endeavors. I look forward to building upon his legacy.

Practicing at an academic medical center focused solely on musculoskeletal specialties allows us to excel in each aspect of our mission, ensuring that we deliver patient care of the highest quality, pursue research at the most sophisticated levels, and train the next generation of eminently qualified orthopaedic surgeons.

As Surgeon-in-Chief, one of my highest priorities is to find innovative ways to continually enhance the experience for our patients and for our physicians. We recently instituted a forum with the chiefs of each orthopaedic service to address issues that will help to unify operations and allow each service to perform effectively, while at the same time support patient-centric clinical care. I count on our physicians to actively participate in devising solutions to challenges posed by today’s healthcare environment where the business of practicing medicine is attracting as much attention as the practice of medicine itself.

Increased consistency in care delivery will elevate quality, improve efficiency, and drive research. To that end, another priority is to create standardized care pathways for every disease process and injury within musculoskeletal medicine. Our goal is to care for patients from pre-injury through treatment, rehabilitation, and full recovery when they are back to doing whatever they need and love to do.

As a physician-scientist, I am keenly aware of the importance of encouraging young physicians to develop strengths in both clinical care and research. Physician-scientists are uniquely suited to conduct research that benefits patients because they understand the problems patients face. Research by physicians makes the hospital better, makes the physician better, and leads to better care for the patient.

I’ve always known that physicians who have trained at HSS are exceptional. They are the brightest of the bright, taught in an environment where questioning is encouraged and there is ample opportunity for subspecialization. Those individuals who completed their training here are excellent practitioners and leaders in the field, and those who hope to train here view HSS as an extraordinary place to pursue a residency or fellowship.

I am privileged to have the opportunity to serve as Surgeon-in-Chief of the number one hospital for orthopaedics in the country and to work with the talented physicians and staff of HSS whose patients’ well-being is first and foremost.

Todd J. Albert, MD, FACS
Surgeon-in-Chief and Medical Director
Koren-Wilson Professor of Orthopaedic Surgery
During the more than decade-long tenure of Thomas P. Sculco, MD, as Hospital for Special Surgery’s 11th Surgeon-in-Chief, HSS has undergone a transformation in its clinical care, research and educational programs, global outreach, and physical plant, and achieved and maintained the number 1 ranking in orthopaedic surgery in the nation.

“When I accepted this position I had certain goals that I wanted to achieve and I have accomplished most of them,” says Dr. Sculco, who succeeded Russell F. Warren, MD, as Surgeon-in-Chief in 2003. Dr. Sculco’s association with HSS began as a resident in 1971 after earning his medical degree at Columbia University College of Physicians and Surgeons. Upon completing the Bowen-Brooks Fellowship in Europe, particularly in Finland and the London Hospital, he returned to HSS.

In looking back over his term as Surgeon-in-Chief, Dr. Sculco points to a number of achievements, including helping to broaden access to the Hospital. “We needed to physically grow HSS and our faculty,” he says. “We have doubled the clinical volume from 15,000 to 30,000 operations annually, and we have added 40 outstanding orthopaedic faculty. Additionally, we now have 35 orthopaedic operating rooms, and we created separate ambulatory surgery units for sports medicine and for hand and foot surgery. In keeping with the original vision of HSS when it was founded 150 years ago, we also created a ‘pediatric orthopaedic hospital’ within the walls of HSS to better care for the children who come to us for their treatment.”

The Hospital’s growth in the last decade also enabled it to strengthen its research enterprise. This includes the establishment of the Anna-Maria and Stephen Kellen Physician-Scientist Career Development Award program in which Dr. Sculco played a key role. Working with Dr. Richard Laskin and, more recently, Dr. Charles Cornell, Dr. Sculco created the HSS Journal, now in its 11th year and with contributions from HSS staff and physicians around the world.

An avid educator and mentor, Dr. Sculco helped to further develop HSS residency and fellowship programs that today provide outstanding orthopaedic training to physicians from around the world. HSS now receives more than 650 applications each year for nine residency positions. In September 2014, HSS was ranked as the top orthopaedic surgery residency program in the country by the physician network Doximity, along with U.S. News & World Report. Dr. Sculco credits Dr. Mathias Bostrom for his leadership in academic training for this outstanding accomplishment.

Having performed 15,000 total joint replacements in his career so far, Dr. Sculco counsels residents that “every hip is a little different. There’s a great deal of creativity involved. It calls for problem-solving skills, some engineering, some sculpting, and, of course, a cool hand.” And, he adds, a bit of humility. “Never be too proud to ask for help and advice,” he tells them.

“You can risk bruising your ego. Always remember it’s the patient that matters most.”

In 2005, committed to strengthening the Hospital’s mission as a world leader in musculoskeletal medicine, Dr. Sculco initiated the International Society of Orthopaedic Centers (ISOC), now an organization with 20 member institutions spanning 17 countries. “It is important for us to provide education and research knowledge to the orthopaedic community around the world,” he says. “This collaboration is great for HSS and the other ISOC centers. We all learn from each other.”

Dr. Sculco also helped create the American Austrian Foundation’s Bone and Joint Surgery Seminars in Salzburg, Austria; founded an exchange program with China and a hip and knee replacement symposium conducted by HSS at the annual Chinese Orthopaedic Association meetings in Beijing; and established a partnership with the Stavros Niarchos Foundation, which enables Greek surgeons to come to HSS to learn, and the Stavros Niarchos Foundation – Thomas P. Sculco, MD, International Orthopaedic Fellowship that provides a Greek national orthopaedic surgeon with a one-year fellowship at HSS.

While Dr. Sculco will continue to focus on his research and busy operating schedule – performing some 500 surgeries a year – he is also establishing a Center for Complex Joint Replacement Surgery to investigate why implants fail and how to improve care for these patients.

“HSS is a remarkable hospital,” says Dr. Sculco. “I have been blessed to work with an amazing faculty, and it has been a great honor to be their chief.”
GAME CHANGERS

INFLUENCING THE FUTURE OF ORTHOPAEDIC SURGERY

When HSS was founded as the first institution in the country devoted entirely to the treatment of patients with musculoskeletal disabilities...that was a game changer.

When HSS established the first orthopaedic residency program in the United States...that was a game changer.

When HSS created the nation’s first hospital-based program of computer-aided design and manufacture of joint prostheses...that was a game changer.

When HSS constructed an entire building devoted to research...that was a game changer.

“One of the major distinctions of HSS is that it has this incredibly rich history,” says Todd J. Albert, MD, Surgeon-in-Chief. “The Hospital is advantaged by its extreme focus on being a musculoskeletal provider. There’s a realization of excellence that comes with the ability to be able to concentrate on every single facet around musculoskeletal care.”

Today, HSS continues to change the game in orthopaedic surgery with thought leaders, innovators, investigators, and educators who leverage their clinical and scientific expertise to impact the field in visionary and transformative ways.

THE INNOVATORS

“I’ve had devices that were commercialized and ones that weren’t. You have to be comfortable with things that don’t work in order to achieve future success,” says Robert N. Hotchkiss, MD, when asked why he was interested in taking on the position of the first Chief Innovation Officer at HSS and Director of its new Innovation Center. In his new role, Dr. Hotchkiss – an orthopaedic surgeon specializing in the hand and upper extremity who also serves as Director of Clinical Research for HSS – is energizing the process by which the Hospital identifies, evaluates, and pursues innovation in two major areas:

**Life Sciences Innovation**, which focuses on the invention of implants, devices, and instrumentation and the development of therapeutics and diagnostics that can improve clinical outcomes

**Care Delivery Innovation**, which includes digital health solutions and alternative approaches that could transform how care is delivered, enhance the patient experience, and improve operational efficiency

“HSS has extraordinarily gifted surgeons and bioengineers who’ve launched very successful, world-changing products such as the total knee replacement,” says Dr. Hotchkiss. “To actively pursue new ideas that will benefit the patient speaks to the very core of HSS. The creation of the Innovation Center is making it possible to bring together the people, the infrastructure, the funding, and the collaborations needed to advance the development of early stage biotechnologies and to generate and implement new models of care delivery.”

With a priority on making the process from theory to practice more efficient and responsive, the Innovation Center is well on its way with several products and projects in the pipeline.

**Reducing Errors in the OR**

OrthoSecure™ is a computer-based system for operating rooms that prevents implant errors for patients undergoing a knee or hip replacement and minimizes the number of implant parts that are erroneously opened and not used. “There is an emphasis on two things in healthcare right now: reducing costs and improving...”

Dr. Robert N. Hotchkiss
quality,” says Steven B. Haas, MD, who along with his colleagues on the Knee Service developed the safety system. “Most of the time, we think of those things as diametrically opposed, that we are going to decrease quality by saving money. OrthoSecure was tested with six high-volume knee replacement surgeons at HSS over a seven-month period. This study showed that you can increase quality and reduce costs.” HSS will be implementing the software for all hip and knee replacements going forward.

Preventing Surgical Complications To address the risk of reherniation following surgery for a herniated disk, Frank P. Cammisa Jr., MD, Chief of the Spine Service, and Joshua E. Schroeder, MD, spine fellow, collaborated with Colin Nuckolls, PhD, professor of chemistry at Columbia University, to invent an “annulus patch” constructed of carbon nanorods designed to plug the repaired disc and prevent reherniation. “Carbon gives great strength at under one millimeter thickness to make sure discs don’t reherniate,” says Dr. Schroeder.

The HSS Innovation Center helped the research team apply for and receive the competitive Columbia-Coulter Translational Research Partnership grant awarded to projects with very high commercial potential. With matching funds from HSS, the research team is now testing the novel substance in the lab to ensure fixation and biocompatibility.

Enhancing Postoperative Care When Bryan T. Kelly, MD, and Friedrich Boettner, MD, were looking for a way to provide seamless care for their patients after surgery, the Innovation Center helped forge a relationship with ViiMed™, a web-based platform that provides video-based communication with patients. Now postsurgical patients have all of the information they need through video and telecommunications with the doctors, eliminating unnecessary trips to the Hospital during the recovery process. Preliminary results have been positive, with excellent patient engagement and care coordination.

Improving Pain Relief Current nonsurgical therapies for knee arthritis expose patients to systemic drug effects and do not provide a viable long-term option to delaying a total knee replacement. A novel drug delivery system invented by Dr. Hotchkiss provides pain relief through a small reservoir containing medication implanted into the joint to locally and steadily deliver a drug dose over several months. The Innovation Center helped pair Dr. Hotchkiss with a pharmaceutical company that already had a sustained-release drug delivery system on the market for eye surgery.

Personalizing Surgery “We have been very successful at reconstructing joints,” says Timothy M. Wright, PhD, Director of Biomechanics. “But even though the implant systems that we use come in several different sizes and shapes, it remains very much a one-size-fits-all approach. When we started years ago, the vast majority of patients were elderly and that approach worked well. But now we’re seeing patients at earlier stages of disease, and they want better solutions. Their expectations go beyond pain relief...they want to return to a vigorous, active lifestyle. So the challenges are much greater than they were.”

Dr. Wright points to a better understanding of how joints and cartilage work that has enabled him and his colleagues to model not just the shapes of the bones or the fit of the implant components, but also how these components interact with the muscles, ligaments, and other soft tissues to create a dynamic, stable joint that allows for much more function than previous implants.

“In addition, there are ways that we can begin to personalize surgery in the manner that medicine is beginning to be personalized,” says Dr. Wright. “The thousands of people who come to HSS to have their joints replaced are all at different stages in their disease, have different ligament properties and a different amount of deformity in their joint, and all have different expectations for their treatment. Over just the past few years, we’ve been building the tools to be able to rapidly solve an individual patient’s problem. Because of the unique environment of HSS, we can gather engineers, orthopaedic surgeons, physical therapists, information technology people, clinical researchers, imaging specialists, and biologists in one room. They all know one another; they’ve all worked together for years; and they’re all ready to take on this challenge. In three to five years, we’re going to see a revolutionary change in the way orthopaedic surgery is done. It’s going to take bold initiatives. It’s going to take innovation. It’s going to take a place like Special Surgery.”
Devising an Orthopaedic EMR Module

Orthopaedic surgeons David J. Mayman, MD, and Anil S. Ranawat, MD, are charged with developing an orthopaedic module for HSS’s electronic medical record system. “From the day that I started here, I’ve been looking forward to having a better electronic medical record for both the physician’s office and the Hospital,” says Dr. Mayman. “I’ve participated in implementing the systems that we’ve used in the past so I have experience with their drawbacks and can help develop a more effective EMR than has previously been available.”

“The Hospital wanted to include physicians who were familiar with computer systems in the planning of a new EMR,” adds Dr. Ranawat. “I’ve been using the electronic medical record for over seven years; I’ve been paperless for five. In addition, Dr. Mayman does more inpatient surgery and I do more outpatient procedures so we are able to provide insight on requirements in each area in the development of the new orthopaedic module. Our goal is to have our infometrics as state-of-the-art as the surgical procedures that we do here.”

The journey from the paper chart to a fully integrated electronic medical record has been an arduous one, with integrating communication with other systems one of the key challenges. “Because EMR systems have been largely designed for use by internists and primary care physicians, they’re not efficient for orthopaedic surgeons,” says Dr. Mayman. “For example, I don’t need to know how many children a 60-year-old woman that I’m doing a hip replacement on has. I care about how far my patient can walk, if she has a limp, if she’s taking anti-inflammatories or had any injections, if she’s using a cane, if she’s had any physical therapy, and if her knees or her back bother her.”

Dr. Mayman and Ranawat are now working with the healthcare technology software company Epic to build the system for HSS from the ground up. “We’re modifying Epic’s program to make it specific to HSS,” says Dr. Ranawat. “We are the advocates for the orthopaedic physicians. When it’s completed, the Hospital will have one uniform EMR system that will work much more efficiently connecting the OR, clinical areas, and physician offices, and patient care will be better.”

A Life Sciences Product Development Journey

Biomechanical engineer Suzanne A. Maher, PhD, Associate Director of the Tissue Engineering, Regeneration and Repair Program, has been working for some time with co-investigator Russell F. Warren, MD, Surgeon-in-Chief Emeritus, to develop a new solution to prevent the onset of osteoarthritis by replacing damaged cartilage with a hydrogel implant. “Our concept is to replace the area that’s damaged with a miniature implant designed to match the mechanical properties of the adjacent articular cartilage,” says Dr. Maher. “The implant has a porous, metal base that sits in the bone. The hydrogel consists of a very stiff central core, which sits in the cartilage. What is interesting about the material is that while it can carry a mechanical load, if it goes into an area of the joint that’s curved it will actually conform to that curvature once it’s loaded.”

The hydrogel also has a softer porous spongy edge to help seal any gaps with articular cartilage that might be present. Importantly, Drs. Maher and Warren found that if they achieve a specific amount of press-fit, the cells from the cartilage can then move into that porous perimeter and help to integrate the hydrogel with the surrounding tissue.

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THE INVESTIGATORS

A short skyway conveniently connects the Hospital’s clinical facilities with its Caspary Research Building. Here, seven floors of laboratories are dedicated to investigations of some of the most challenging problems in musculoskeletal diseases by distinguished authorities in anatomy, biomechanics, biochemistry, immunology, molecular biology, and pathology. With a major research organization and highly skilled bench-to bedside teams of scientists and physicians, HSS is in a key position to rapidly translate scientific discoveries into clinical breakthroughs. Every year, HSS orthopaedic surgeons, bioengineers, and basic scientists have hundreds of articles published in peer-reviewed journals. Their prolific body of work reflects their efforts – in the laboratories and in the ORs, in experimental models and in clinical trials – to better understand the origins of musculoskeletal disorders, to make headway in treatments, and to effect measurable improvements in outcomes.

Over the past few years, HSS has taken several steps to strengthen its research enterprise, including a continuing focus on basic research, a program to ensure the longevity of physician-scientists, and the creation of an infrastructure that organizes and facilitates access to the Hospital’s tremendous breadth of clinical data.

Physician-scientist and sports medicine specialist Scott A. Rodeo, MD, is Co-Director of the Hospital’s Tissue Engineering, Regeneration and Repair Program. Dr. Rodeo has been a key member of the research faculty at HSS since the earliest days of his career. Having treated and continuing to treat his share of sports injuries in all levels of athletes – from Olympic competitors to recreational sports enthusiasts – Dr. Rodeo has simultaneously been seeking to reduce the long-term consequences of their inevitable injuries.

Take, for example, knee meniscus injuries. “These injuries do not heal spontaneously and more than one million patients undergo meniscectomy each year in the United States,” says Dr. Rodeo. “While removing the torn meniscus does alleviate pain, the incidence of debilitating osteoarthritis later in life is significantly increased. Regeneration of the meniscus would reduce the incidence of secondary osteoarthritis and lessen the healthcare burden.”

A five-year, $1.2 million grant from the National Institute of Arthritis and Musculoskeletal and Skin Diseases is enabling Dr. Rodeo and his co-investigators to conduct studies to identify fibrochondrocyte populations that are critical for meniscus regeneration with the goal of developing therapies using novel biomaterials and biomolecules.

Protecting Physician-Scientists Through the establishment of the Anna-Maria and Stephen Kellen Physician-Scientist Career Development Award program, the Hospital has made a commitment to the development of physician-scientists, providing support for scientific investigations by emerging HSS physicians and making it possible for them to balance their clinical practice with research pursuits. “Physician-scientists have a deep understanding of patients’ needs and priorities, and they drive research that will directly impact patient outcomes,” says Thomas P. Sculco, MD, Surgeon-in-Chief Emeritus, who played a key role in developing the program.

“We want to continue to empower our younger surgeons to do health sciences research…to ask the important questions within their specialty and propose solutions that are achievable,” says Dr. Todd Albert. “They have the incentive, they have the time, and they have the energy. This will position HSS to become the center for addressing complex challenges in orthopaedic care…to change the game, so to speak.”

Lawrence V. Gulotta, MD, completed his residency in orthopaedic surgery and a fellowship in sports medicine and shoulder surgery at HSS, where he distinguished himself as a clinical researcher. He rejoined HSS as a full-time attending in 2012, receiving the Kellen Physician-Scientist Career Development Award that same year to study the mechanisms of shoulder replacement loosening.

“At HSS, approximately 95 percent of patients who undergo a shoulder replacement are satisfied with their shoulder at two years,” says Dr. Gulotta. “But the metal and plastic that we use to replace the shoulder can loosen – a risk that is cumulative over time. Extrapolating these results out, one can assume that in 20 years, there will be approximately a 20 percent chance of having a loose part in the shoulder replacement. This can lead to pain and dysfunction, and often a second surgery to revise the implants.”

Dr. Gulotta seeks to determine ways to minimize this risk and to improve implant longevity. “The main focus of my research is to identify the forces that are transmitted across the socket portion of the joint under different scenarios,” explains Dr. Gulotta. “This understanding will lead to techniques and implants that improve the fixation in

Dr. Scott A. Rodeo

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order to counterbalance these forces." Dr. Gulotta and his research team are currently investigating ways to augment glenoid implant fixation using screws and evaluating changing the angle at which the implant is placed to see if this could help minimize the forces across the implant.

Throughout his residency and fellowship training, Matthew E. Cunningham, MD, PhD, received a number of awards recognizing his research accomplishments. He was also among the first group of recipients of the Kellen Physician-Scientist Career Development Award enabling him to further his research on non-invasive spine fusion.

"Spine fusions can greatly improve or eliminate clinical pain symptoms, but the surgeries are relatively extensive and can have complication rates up to as high as 60 percent in some patient demographic populations," says Dr. Cunningham. In an effort to minimize complications and return patients to activities of daily living more quickly, Dr. Cunningham has been researching a method whereby a patient could obtain a solid spinal fusion after undergoing only an injection.

"The ultimate goal of my lab is to develop an injectate that would turn the soft tissue inside the disk into bone causing the fusion of the two surrounding vertebra," says Dr. Cunningham. "Without a sufficient blood supply in the disc tissue, and with a tissue that apparently thwarts bone production, we expected that developing such a treatment would be challenging. Using bone growth factors, we have been able to show in comparative models that it's certainly possible to make bone, but not inside the disc space."

Dr. Cunningham and his colleagues have been exploring how to drive a blood supply into the disc and how to make mineral crystals grow inside with a focus on the possibility that factors may exist that prevent the matrix inside the disc from allowing blood vessels or mineral crystals to be formed. "We have begun to experiment with altering the enzymes and other proteins that regulate the disc's ability to retard crystal formation," explains Dr. Cunningham.

To accomplish this, they have been manipulating gene expression in the disc, either by delivering genes of interest to disc cells to turn on their expression or by turning off the expression of others. They have been able to demonstrate mineralization not only in tissue cultures in petri dishes but also in ex vivo spine models. "It's one step short of the triumphant success that we've been working toward for many years," says Dr. Cunningham. "I'm hoping that within the next few years we will have achieved a successful fusion within the disc space in one of our comparative models."

Promoting Clinical and Population Research. What can a highly specialized musculoskeletal institution with nearly 30,000 surgeries and more than 273,000 patient visits in 2013 alone do to leverage its enormous breadth of clinical material across multiple subspecialties to improve patient outcomes? The answer at HSS was the establishment of the Healthcare Research Institute in 2013 under the direction of Stephen Lyman, PhD, a highly respected health services researcher whose studies have focused on patterns of orthopaedic healthcare delivery and their impact on patient outcomes.

"The world of healthcare research has moved beyond analyzing the results of a specific surgical procedure in a defined patient population," says Dr. Lyman. "We now need to ask how does the procedure compare to other treatments and what is its value in an era of increasingly scarce medical resources? These new questions require different study designs and new areas of expertise and specialization. The HSS Healthcare Research Institute is enabling us to conduct clinical and population health research that brings the maximum benefit to patients in need of musculoskeletal care."

The Healthcare Research Institute consolidates HSS’s clinical research programs under a single administrative structure and is responsible for managing the Hospital’s institutional patient registries – which now number more than 45 with information on more than 110,000 enrollees – and expanding HSS’s population health research to have the greatest impact on the future of musculoskeletal care delivery.

"The Hospital’s registries form the foundation of evidence-based care, providing valuable information for evaluating patient outcomes, refining current treatments, and developing new techniques and therapies," says Dr. Lyman. "If we can develop algorithms or predictive models that provide information to surgeons, nursing staff, anesthesiologists, pharmacists, and other caregivers who need particular attention for a specific patient, this would truly contribute in a meaningful
way to improving outcomes after surgery, and making sure that what we uncover or discover contributes to excellent outcomes for patients not only here, but everywhere.”

To create efficiencies in the registry program, Dr. Lyman and his colleagues are exploring a common electronic platform in which to merge all of the registries. “We want to be able to link any patient in any registry,” says Dr. Lyman. “We also want the registries to be more nimble and allow patients to provide us whatever information they’d like, whenever they’d like to give it to us, and by using whatever method they’re comfortable with. A 15-year-old who sends 200 text messages a day is more likely to respond to questions about the state of their ACL reconstruction via text than they would to a mailed survey.”

THE EDUCATORS

In September 2014, the physician network Doximity, along with U.S. News & World Report, which consulted on survey methodology, announced the results of the first comprehensive national evaluation of residency programs. HSS’s orthopaedic surgery residency program was named as the top program in the nation, selected from 3,691 residency training programs combining over 50,000 peer nominations from board-certified U.S. physicians. This is the first time that data on a national evaluation of residency programs has been made public, a response to calls for transparency into the performance of residency programs by both the Institute of Medicine and the Association of Health Care Journalists.

“We want patient care at HSS to be extraordinary, but also, we want patient care elsewhere to be extraordinary,” says Mathias P. Bostrom, MD, Vice Chair of Education and Academic Affairs for Orthopaedic Surgery. “Our mission is to take amazingly qualified residents and enable them to become the next group of leaders in orthopaedics and musculoskeletal care. We want them to utilize all of the resources that we have here to not only better themselves, but also better the field.”

Teaching residents and fellows is a critical component of the Hospital’s raison d’être. “All of our orthopaedic services are highly focused on teaching programs," adds Dr. Scott Rodeo. “As the institution grows, and as the clinical volume grows, how do you maintain a robust teaching program while still trying to run the clinical engine of the Hospital? It can be a challenge at times. Also, how do you use all of that volume as a strength for your teaching? How do we identify the best teachers for the residents? The important point is to continue to evaluate, evolve, and improve our education programs.”

The Hospital recently instituted an orthopaedic boot camp for its novice trainees. “Our residents need to have basic surgical skills, which we introduce in boot camp, even if they’re going on to learn how to perform sophisticated reconstructions,” says Dr. Bostrom. “We have comprehensive resources to teach that exceedingly well. This includes our Bioskills Education Laboratory – with its simulator-based and cadaveric approach – that is the foundation of not only our boot camp, but for many of the educational experiences that all of the residents have as they progress through their training on each of the orthopaedic services.”

Dr. Bostrom emphasizes that research is a key element of the Hospital’s residency program. “You can’t be a leader in a field without understanding fundamental groundbreaking research that advances the field,” says Dr. Bostrom. “This doesn’t mean that everyone is supposed to do benchtop research, but they should understand the principles and be able to apply them to clinical practice.”

Over the past several years, the Hospital’s educational initiatives have become more widespread, encompassing the HSS-China Orthopaedic Education Exchange, which provides a unique opportunity for orthopaedic surgeons and trainees in China to benefit from the Hospital’s specialized expertise through professional education programs in their home country and on-site at HSS. “It’s been a wonderful exchange of ideas,” says Dr. Bostrom. “The types of cases that they see are very different from what we see. The amount of deformity in the knee, for example, is much greater in China than what we see here in New York.”

For the past eight years, The Stavros Niarchos Foundation – Thomas P. Sculco, MD, International Orthopaedic Fellowship and annual professional education programs for physicians from Greece have become an integral component of the Hospital’s academic endeavors.

Technology has made it possible to extend the Hospital’s education programs even further. Among these is the HSS eAcademy, an electronic, digital platform for distribution of education and academic programs through live streaming as well as offerings on demand. “Essentially, we have a very comprehensive portfolio of education programs that can be tailored to the needs of the individuals and organizations around the world that want to hone their own skills or enhance their local orthopaedic programs,” says Dr. Bostrom. “Whether physicians have come to HSS as residents or fellows, or for a two-month exchange, we want them to feel that they are a part of the HSS family indefinitely.”
ADULT RECONSTRUCTION AND JOINT REPLACEMENT DIVISION

Douglas E. Padgett, MD
Chief, Adult Reconstruction and Joint Replacement Division
Chief, Hip Service

Steven B. Haas, MD
Chief, Knee Service

Mark P. Figgie, MD
Chief, Surgical Arthritis Service

Michael M. Alexiades, MD
Friedrich Boettner, MD
Mathias P. Bostrom, MD
Robert L. Buly, MD
Charles N. Cornell, MD
Michael B. Cross, MD
Alejandro Gonzalez Della Valle, MD
Allan E. Inglis, Jr., MD
Seth A. Jerabek, MD
David J. Mayman, MD
Bryan J. Nestor, MD
Michael L. Parks, MD
Paul M. Pellicci, MD
Amar S. Ranawat, MD
Chitrnanjan S. Ranawat, MD
Eduardo A. Salvati, MD
Thomas P. Sculco, MD
Edwin P. Su, MD
Geoffrey H. Westrich, MD
Philip D. Wilson, Jr., MD
Emeritus
Russell E. Windsor, MD

(Front row, from left)
Dr. Alejandro Gonzalez Della Valle and Dr. Michael M. Alexiades.
(Second row, from left) Dr. Mathias P. Bostrom and Dr. Seth A. Jerabek.
(Back row, from left) Dr. Mark P. Figgie, Dr. Robert L. Buly, and Dr. Geoffrey H. Westrich.
The Adult Reconstruction and Joint Replacement Division is composed of the Hip Service, the Knee Service, and the Surgical Arthritis Service. As the only hospital in the nation specifically dedicated to musculoskeletal conditions, HSS performs more joint replacement procedures than any other hospital in the country. The Division’s members continue to be active in the design and development of new implants. In addition, they are addressing perioperative joint replacement issues, specifically looking at methods to improve pain management, control blood loss, reduce length of stay, and enhance the overall experience of the joint replacement patient.
ADULT RECONSTRUCTION AND JOINT REPLACEMENT DIVISION

CLINICAL HIGHLIGHTS

• In 2013, the Division’s orthopaedic surgeons performed 8,423 inpatient surgeries and 637 ambulatory surgeries – the largest volume at a single institution in the country. Patient visits totaled 47,072.

• The Division welcomed Dr. Michael Cross, a clinician-scientist who completed his residency at HSS and fellowship in adult reconstruction at Rush University Medical Center. Dr. Cross specializes in primary and revision joint replacements and will also focus significant time on clinical and translational research.

• The Division has developed a High Performance Operating Room model to identify those characteristics of the perioperative process and the OR team dynamic that drive or inhibit clinical quality and operational efficiency. The program includes a redesign of the implant management process and exploration of the benefits of patient-tailored instrumentation.

• The Knee Service has been pursuing approaches to improve patients’ satisfaction with their knee replacement, including pain control to reduce inflammation and techniques to reduce blood loss.

• Designing patient-specific models – customizing surgical technique with smart tools uniquely designed for that patient – is a major focus of the Knee Service. The process involves employing MRI scans preoperatively, designing appropriate instrumentation, and then bringing the custom-built instruments into the operating room, thus customizing the fit for the patient and creating efficiencies in the OR.

• The use of robotics in unicompartmental knee surgery is being expanded, an approach that supports the goal of performing less invasive knee replacement surgery when possible.

• The Knee Service is further refining new software systems for safety and quality assurance purposes. OrthoSecure™ ensures that joint replacement patients receive the correct implants. The computer system augments reading of the implant packaging with scanning of a barcode on the implant that is validated before the prosthesis is used in the patient. In addition, the data collected is transmitted to the patient’s electronic medical record seamlessly, assuring that compatibility rules are complied with and followed.

• In conjunction with the Department of Biomechanics, the Surgical Arthritis Service has just received licensing for a new design for a total elbow replacement.

RESEARCH INITIATIVES

• In April 2013, the Division held its Seventh Annual Research Retreat to review current research initiatives, as well as new investigations in partial knee replacement, perioperative processes, bone restoration, registries/outcomes, osteoarthritis, and osteolysis.

• The National Institutes of Health awarded the Division and the Department of Radiology and Imaging a $1.6 million R01 grant to explore MRI techniques in monitoring the performance of joint implants. This multidisciplinary investigation will examine imaging as a method of surveillance to determine early on which implants are performing well and those that are performing poorly.

• Service members are participating in a cooperative prospective study on the efficacy and safety of tranexamic acid to reduce bleeding in knee replacements.

• Research continues on computer navigation to help with alignment and positioning in joint replacement.

• An investigation is underway of the success and survivorship rate of implants in patients under 35 who have had hip and knee replacements.

• As of the end of 2013, the Total Joint Replacement Registry had approximately 47,500 patients enrolled.

EDUCATION UPDATES

• The Adult Reconstruction and Joint Replacement Fellowship Program, established over 40 years ago, includes eight fellowship positions. The program continues to attract outstanding applicants and received 150 applications for the 2015-2016 academic year.

• Hospital for Special Surgery hosted the 25th Annual Holiday Knee Course in New York City, attracting 144 attendees, including 37 faculty from around the country and the world. In 2014, the course will be expanded to the HSS Holiday Knee and Hip Course.
The Foot and Ankle Service, with 10 orthopaedic surgeons and one podiatrist, is the largest program of its kind in the country providing specialized surgical and nonoperative expertise for fractures and dislocations, osteochondral lesions, sports injuries, Achilles tendon injury, ligament failure, adult flat foot deformity, and bunions and toe deformities. The Service has a particular focus on total ankle joint replacement — improving the implants and the technique, defining the criteria for selecting patients who could benefit most, addressing the challenges of implant failure, and evaluating long-term outcomes.
CLINICAL HIGHLIGHTS
- In 2013, the Foot and Ankle Service performed 398 inpatient surgeries and 2,024 ambulatory surgeries, with 24,049 patient visits.
- The Service welcomed Dr. Constantine Demetracopoulos, a former HSS resident and a specialist in reconstruction of foot deformities, sports-related injuries, fractures of the foot and ankle, and total ankle replacement.
- With new implants improving the ability to perform total ankle replacement accurately, the Service is increasing its use of this procedure. Given that this is still an emerging technology and a complicated procedure, the Service has begun a collaborative program with young and seasoned surgeons performing total ankle replacement together to ensure optimal success of the procedure.
- The Foot and Ankle Service participated in a pilot program with Case Management staff designed to enhance the discharge planning process. The program addresses additional support patients may require post surgery, including referrals for rehabilitation, skilled nursing facilities, and home health care.

RESEARCH INITIATIVES
- Under the direction of Dr. Scott Ellis, Director of Research for the Foot and Ankle Service, faculty have received IRB approval for 18 active research projects, 16 with an expected completion date in 2014.
- The Service-wide registry, supported by the Susan and Elihu Rose Foundation, is a focal point of Foot and Ankle research at HSS. This web-based, customized patient database captures data, including preoperative and postoperative functional and activity level information, on every new patient with a goal to follow patients longitudinally to better understand outcomes and make improvements. As of the end of 2013, the registry had enrolled nearly 48,000 patients, making it the largest foot and ankle database in the world.
- The American Orthopaedic Foot & Ankle Society (AOFAS) awarded a grant to Dr. Mark Drakos to study ankle injuries, specifically syndesmotic instability. Dr. Drakos has been working with Dr. Jeremy LaMothe, a 2014 graduating fellow, to answer questions related to how to diagnose and treat this difficult problem. They now have several publications in press on syndesmotic instability and repair.
- Drs. Scott Ellis and Jonathan Deland were awarded the 2014 AOFAS Goldner Award for their work on correlation of postoperative midfoot position with patient outcomes following reconstruction of stage two adult acquired flatfoot deformity.
- Additional studies include evaluating the treatment of osteochondral lesions using cartilage stem cells, bone marrow aspirates, and platelet-rich plasma injections.

EDUCATION UPDATES
- Education is a major focus of the Foot and Ankle Service, providing training for three fellows and two rotating residents.
- In 2013, the Foot and Ankle Service hosted the Annual AOFAS Resident Review Course consisting of didactic and interactive presentations. Directed by Dr. Matthew Roberts, the course had over 70 residents who participated from around the country and Canada. The Service also hosted six AOFAS Traveling Fellows for one week, three of whom traveled from Austria, Brazil, and South Korea.
- To stay engaged with alumni and provide continuing education, the Service has initiated a discussion forum on the forMD online platform to communicate about difficult cases on a password-secured website. Alumni can describe the situation and upload images for discussion with colleagues.
The Hand and Upper Extremity Service has achieved an international reputation as an authority in the treatment of a wide range of complex conditions of the hand, wrist, forearm, and elbow. Staffed by nine surgeons, each skilled in a particular area of expertise, the Service is committed to enhancing the quality of life of patients, while advancing the science of orthopaedic surgery and related disciplines through research and education.

**Clinical Highlights**

- In 2013, members of the Hand and Upper Extremity Service performed 110 inpatient surgeries and 2,450 ambulatory surgeries, with patient visits totaling 23,560.
- Dr. Aaron Daluiski led the development of a dedicated congenital upper extremity clinic in conjunction with the pediatric orthopaedic service.
- Dr. Duretti Fufa, who specializes in microsurgery, complex reconstruction, and traumatic injuries to the hand and upper extremity, joined the Service in January 2014. Dr. Fufa, a former HSS resident, completed fellowship training in hand and microsurgery at Washington University in St. Louis and at Chang Gung Memorial Hospital in Taiwan.
  
  Dr. Fufa is also Chief of Hand Surgery at NewYork-Presbyterian/Weill Cornell and will guide the microsurgical training of fellows.

**Research Initiatives**

- The Hand and Upper Extremity Service continues to pursue a robust research program. In 2013, the Service received IRB approval on 48 research projects, 43 with an expected completion date in 2014 and five in 2015.
- Dr. Scott Wolfe and his research team continue to receive support from the National Institutes of Health to pursue pioneering studies in peripheral nerve and brachial plexus reconstruction.
- The Service has coordinator-supported registries in seven key areas, including the basal joint, distal radius, carpal tunnel, neoplasia, pediatrics, brachial plexus, and complex elbow reconstruction. Collectively, the Service has been awarded more than $3 million in local, regional, and national competitive grant funding for its research activities.

**Education Updates**

- The Hand and Upper Extremity Service offers a strong educational program, with a commitment to exposing trainees to the breadth and depth of hand surgery through didactic education, clinical instruction, and surgical experience.
- In addition to HSS, the Service directs surgical hand programs at NewYork-Presbyterian/Weill Cornell and Memorial Sloan Kettering Cancer Center.
- In 2013, Dr. Eugene Ek, Hand and Upper Extremity fellow, traveled to Coimbatore, India, for an intensive two-week microsurgery training program at Ganga Hospital.
- In April 2013, the Service hosted the Lee Ramsay Straub, MD, Honorary Lecture in Hand Surgery with Dr. Thomas J. Fischer, Chairman, Department of Hand Surgery at St. Vincent Hospital and Health Services in Indianapolis, presenting on the evolution of distal radius plate fixation.
(Seated, from left) Dr. Edward A. Athanasian, Dr. Scott W. Wolfe, and Dr. Duetti Fufa. (Standing, from left) Dr. Robert N. Hotchkiss, Dr. Michelle G. Carlson, Dr. Andrew J. Weiland, Dr. Lana Kang, Dr. Steve K. Lee, and Dr. Aaron Daluiski.
CLINICAL HIGHLIGHTS
- Members of the Hip Preservation Service and the Center for Hip Preservation include specialists in orthopaedic surgery, physiatry, physical therapy, sports medicine, radiology, and biomechanics. The collaborative approach facilitates early and accurate diagnosis of complex hip pain and affords patients greater treatment options.
- The Service has launched an online education experience for patients undergoing hip preservation procedures using a web-hosted meeting service. Patients and family members have the opportunity to view educational material, speak directly with their clinical team, and participate in group discussions.
- In 2014, the Service welcomed Dr. Danyal Nawabi who completed a Hip Preservation Fellowship, as well as fellowships in Adult Reconstruction and Joint Replacement and Sports Medicine at HSS.

RESEARCH INITIATIVES
- The Hip Preservation Registry, which contains data on more than 5,500 patients, captures the outcomes of surgical and non-surgical treatment for non-arthritic hip pain in patients under the age of 40.
- Service members are identifying contributing factors in the development of hip osteoarthritis, as well as investigating the biomolecular cause of early cartilage failure and developing new approaches for its repair.
- Hip specialists are working to identify objective measures to better evaluate a patient’s hip pain and validate treatment. The functional assessment will gauge mobility of the spine, hips, and lower kinetic chain, as well as a patient’s strength, neurological factors, and movement during everyday activity.

EDUCATION UPDATE
- The Hip Preservation Fellowship, the first such training program dedicated to hip preservation, is now in its third year. This non-accredited, secondary training opportunity allows fellowship-trained orthopaedic surgeons to dedicate an additional year to hip preservation techniques including time at the Schulthess Klinik in Zurich, Switzerland.
The only program of its kind within an academic department of orthopaedic surgery in the country, the Limb Lengthening and Complex Reconstruction Service continues to maintain international recognition as a center of excellence for the care of children and adults with complex problems of limb length equalization and deformity correction. These include deformities related to knock-knee and bowleg, foot and ankle, as well as nonunion, malunion fractures, upper extremity deformities, and limb lengthening in patients with congenital conditions and syndromes, including Russell-Silver syndrome and achondroplasia.

CLINICAL HIGHLIGHTS
• In 2013, the Service performed 395 inpatient surgeries and 311 ambulatory surgeries, with 3,679 patient visits.
• The Service is one of the first in the country to use the intramedullary remote-controlled limb lengthening system, PRECICE®, the fully implantable limb lengthening motorized nail for lengthening procedures of the tibia and femur. This device can be applied in many cases and accomplish bone elongation without external fixation.

RESEARCH INITIATIVES
• Service members continue to explore the use of bone morphogenetic protein to improve outcomes with complex limb salvage ankle fusions using external fixators. They also routinely use mesenchymal stem cells both in bone and cartilage regeneration, which has proven to be very successful.
• The Service recently completed a study looking at MRIs before and after ankle distraction arthroplasty with exciting preliminary results that show dramatic differences in the joint preoperatively, with little to no cartilage, and postoperatively with a newly created cushioned layer of cartilage, which correlated with the clinical improvements.
• Service members presented five papers at the 2014 Limb Lengthening Reconstruction Society Annual Meeting, including one that examined the utility of a limb lengthening and complex reconstruction service within an academic department of orthopaedic surgery. The study found that 50 percent of patients are referred by orthopaedic surgeons and 50 percent self-refer. Of the orthopaedic surgeon referrals, 87 percent were from within HSS, demonstrating that a limb lengthening and complex reconstruction service within an academic center improves access to patients for this very specialized, complex surgery.

EDUCATION UPDATES
• The Service offers one of only three limb lengthening fellowships in the country, providing in-depth experience in the management of patients with congenital, developmental, and post-traumatic limb deformity and leg length discrepancy to two fellows each year. Beginning in 2015, nine PGY-3 residents will complete a six-week rotation with the Service.
• In collaboration with Kahn Academy, a non-profit organization that provides free educational resources worldwide, the Service is participating in a global initiative to develop patient education content about limb lengthening and deformity correction.
• Drs. Rozbruch and Fragomen are editing a major reference work, Limb Lengthening and Reconstruction Surgery Case Atlas, with Springer. This 2,500 page, three volume textbook contains over 300 clinical cases and is comprised of six sections (Adult Deformity, Foot and Ankle, Trauma, Pediatrics, Tumor, and Upper Extremity).
The Metabolic Bone Disease/Musculoskeletal Oncology Service is a consortium of basic scientists, clinical diagnosticians, and medical disciplines focused on the prevention and treatment of osteoporosis, Paget’s disease, and related bone disorders. The Service brings together practitioners across multiple specialties, including orthopaedics, rheumatology, physiatry, endocrinology, nephrology, and pediatrics, to treat metabolic bone disease and collaborate on basic, clinical, and translational research efforts. The Service has close relationships with NewYork-Presbyterian/Weill Cornell and Memorial Sloan Kettering Cancer Center.

**CLINICAL HIGHLIGHTS**

- In 2013, the Service performed 34 inpatient and 16 ambulatory surgeries at HSS, as well as 207 inpatient and 25 ambulatory surgeries at NewYork-Presbyterian/Weill Cornell. Patient visits totaled 10,511, with 2,942 DEXA scans.

- In 2013, the Service welcomed Dr. Panagiota (Penny) Andreopoulou, an endocrinologist whose areas of interest include osteoporosis, calcium and phosphate metabolism, and metabolic bone disorders. Dr. Andreopoulou and the Service’s nurse practitioners are developing screening protocols for metabolic bone disease to facilitate appropriate treatment referrals.

**RESEARCH INITIATIVES**

- The Service continues to pursue investigations into sequential and drug therapy combinations, including anabolics, with either denosumab or bisphosphonates, to increase bone density more effectively, and conduct diagnostic studies of the trabecular bone system using MRI.
• The Service received a four-year grant renewal to continue to study bone drug holiday and is also pursuing studies to determine bone architectural characteristics in patients with atypical femoral fractures and in individuals on long-term bisphosphonates without fractures.

• A major research initiative, in collaboration with Cornell University, is defining the mechanical properties as they relate to sugar in the bones of diabetic patients. If sugar is causing bone weakening, the theory is that perhaps certain medications can remove the sugar from the bones.

• The Seymour Cohn Metabolic Bone Registry, which analyzes patient data to identify methods to prevent and repair fragility fractures, has recruited 540 participants since its launch in 2007.

EDUCATION UPDATES

• The Metabolic Bone Disease Fellowship provides fellows with the clinical knowledge and research skills necessary for a successful career in academic orthopaedics and/or medicine; some 90 percent of fellows have gone on to pursue academic careers.

• Dr. Libi Galmer, a 2014 graduating fellow, is involved in clinical research projects that include the effects of vitamin D on muscle function, outcomes of nonunions treated with the Hernigou procedure, avascular necrosis in patients treated with steroids, and adrenal suppression in patients treated with epidural steroid injections.

• The Service has long been actively involved in medical student education, including offering a shadowing program in the care of metabolic bone disease patients and a one-year “Step Out” that enables third-year medical students to conduct metabolic bone research.
(From left) Dr. John P. Lyden, Dr. Joseph M. Lane, Dr. David L. Helfet, Dr. David S. Wellman, and Dr. Gregory S. DiFelice.

*Not pictured:* Dr. David E. Aspinio, Dr. Duretti T. Fufa, Dr. Andrew Grose, and Dr. Dean G. Lorich.
The Orthopaedic Trauma Service is world renowned for the clinical and surgical expertise of its nine orthopaedic trauma surgeons. The Service manages the full range and complexity of orthopaedic trauma, including upper and lower extremity fractures; pelvic, acetabulum, and articular fractures; polytrauma and complicated cases involving nonunions and malunions with or without presence of deformity; and limb length discrepancies.

CLINICAL HIGHLIGHTS
- In 2013, the Service performed 340 inpatient surgeries and 333 ambulatory surgeries at HSS and 1,036 inpatient surgeries and 121 ambulatory surgeries at NewYork-Presbyterian/Weill Cornell. Patient visits totaled 6,326.
- The Medical-Orthopaedic Trauma Service (MOTS) continues as a model to ensure that geriatric patients, particularly those with hip fractures, receive quality care through the collaboration of the General Medicine Service at NewYork-Presbyterian/Weill Cornell and the HSS Orthopaedic Trauma Service.

RESEARCH INITIATIVES
- The Service’s clinical research is directed to improving patient outcomes related to surgical techniques, soft-tissue-sparing minimally invasive techniques, and the healing process of bone and soft tissue.
- Service members have published studies on blood supply to the hip, shoulder, knee cap and patella, and the talus and are now investigating blood supply to the scaphoid bone. The goal is to better understand, depending on the injury, which blood supply gets disrupted and how to perform surgery without further disrupting the blood supply.
- Based on these studies and approaches to preserve vascularity, Service members are now collaborating with HSS joint replacement surgeons related to hip resurfacing; knee surgeons regarding ACL reconstructions and blood supply to the patella; and with hand surgeons related to the scaphoid.
- The Service continues research in a number of areas, including functional outcomes related to the use of anterior tension band plating for anterior tibial stress fractures in high-performance athletes; a clinical and biomechanical investigation of dual mini-fragment plating for midshaft clavicle fractures; surgical outcomes following the use of a standardized treatment algorithm for periprosthetic fractures of the acetabulum; and clinical and radiographic outcomes of surgically treated tibial plateau fractures in patients over 55 years of age.

EDUCATION UPDATES
- The combined Orthopaedic Trauma Service (HSS and NewYork-Presbyterian/Weill Cornell) has grown to include five rotating residents and three Orthopaedic Trauma fellows. Residents are afforded a robust experience in the management of acute trauma, fractures in the elderly, tumors, and pediatric orthopaedic trauma.
- The addition of Dr. Gregory DiFelice at NewYork-Presbyterian/Weill Cornell has enabled the Orthopaedic Trauma Service to add training opportunities in major sports/ligamentous injuries and surgery to repair and reconstruct complex periarticular fractures and fracture dislocations.
- The Orthopaedic Trauma fellowship program offers a large clinical volume and ample opportunity and facilities for research. The referral nature of the Service allows fellows to gain experience in the management of the more complicated polytrauma or isolated but periarticular orthopaedic trauma. The program also includes a four-month rotation at Westchester Medical Center, one of the busiest Level 1 Trauma Centers in New York State.
The Pediatric Orthopaedic Service brings together the depth and breadth of expertise and compassionate care commensurate with the top children’s hospitals across the country. Each year, members of the Service care for thousands of infants, children, and adolescents with a broad range of congenital, developmental, and traumatic conditions. Conditions such as scoliosis, limb length discrepancies, clubfoot, hip dysplasia, and fractures are cared for with both surgical and non-surgical treatments.

CLINICAL HIGHLIGHTS

- In 2013, across HSS orthopaedics, there were 572 inpatient surgeries and 2,270 ambulatory surgeries performed on pediatric patients.
- Of these surgeries, the Pediatric Orthopaedic Service performed 336 inpatient surgeries and 540 ambulatory surgeries. Patient visits for the year totaled 21,303. An additional 221 inpatient/ambulatory surgeries were performed at New York-Presbyterian/Weill Cornell and New York Hospital Queens.
- Pediatric patients are benefitting from the specialized expertise of Dr. Aaron Daluiski as the result of a formalized arrangement between the Pediatric Orthopaedic Service and the Hand and Upper Extremity Service. Dr. Daluiski is developing a program for the surgical management of complex pediatric congenital hand conditions. A new pediatric hand clinic takes place weekly on the pediatric floor.
- The Department of Radiology and Imaging has opened an EOS™ low-dose imaging unit in the Lerner Children’s Pavilion. This new unit greatly reduces the exposure to radiation for pediatric orthopaedic patients.
- Two facilities projects were completed in 2013 – the pediatric service room, which is designed as the home base for both residents and fellows in the Pediatric Orthopaedic training program, and the family atrium, a warm welcoming area of respite for families and friends of pediatric inpatients.

RESEARCH INITIATIVES

- Under the leadership of Dr. Daniel Green and Dr. Emily Dodwell, Service members collectively participated in 35 studies, resulting in 12 abstract presentations and 28 publications.
- Dr. Green, along with Dr. Roger Widmann and Dr. Peter Fabricant, received the Excellence in Research award from the American Orthopaedic Society for Sports Medicine for their paper “Development and Validation of a Pediatric Sports Activity Rating Scale.”
- Dr. Dodwell, a physician-scientist, was awarded the prestigious 2014 Pediatric Orthopaedic Society of North America (POSNA) St. Giles Young Investigator Award and is now undertaking a prospective study of techniques used for closing the growth plate in order to equalize leg lengths, as well as research focused on the management of the dislocated hip in cerebral palsy.
- Dr. David Scher hosted and mentored a research fellow, Dr. Paz Kadem from Chain Sheba Medical Center in Israel, who focused on cerebral palsy outcomes.

EDUCATION UPDATES

- The Service continues its long-standing commitment to education, pairing a strong curriculum with daily clinical and operative teaching experiences. The 2013-2014 academic year featured the addition of an intern to the Service’s in-training team and development of an intern curriculum, as well as the revision of the fellowship rotation schedule to maximize the fellows’ exposure to all of the subspecialties.
- The Pediatric Orthopaedic Service was honored to be one of the four U.S. sites chosen to host three 2013 POSNA-EPOS traveling fellows from Italy, Spain, and France.
(Seated, from left) Dr. Roger F. Widmann, Dr. Emily R. Dodwell, and Dr. David M. Scher. (Standing, from left) Dr. John S. Blanco, Dr. Ernest L. Sink, Dr. Daniel W. Green, Dr. Leon Root, and Dr. Cathleen L. Raggio.

Not pictured: Dr. Aaron Daluiski and Dr. Shevaun M. Doyle.
CLINICAL HIGHLIGHTS

- In 2013, the Spine Service performed 2,501 inpatient surgeries and 637 ambulatory surgeries, with a total of 24,515 patient visits.
- Dr. Chad M. Craig joined the Hospital as Medical Director of Inpatient Spine Services to oversee the coordination and enhancement of perioperative care.
- In an effort to better integrate and coordinate care among subspecialties of the Spine Care Institute, the Service is undertaking an in-depth analysis of spine care delivery. The Care Redesign project is aimed at streamlining processes and developing protocols to guide spine care treatment.
- The Service continues to participate in a Process Modeling of Infections in Spinal Surgery (ProMISS) study that will use computer modeling to examine a number of variables to determine the impact each has on patient outcomes and to identify pertinent high risk factors in patient populations.

RESEARCH INITIATIVES

- Members of the Service are part of the International Spine Study Group and the Complex Spine Study Group, serving as principal or co-investigators in a number of multicenter clinical registries and research protocols.
• HSS is the only hospital in the northeast participating in an FDA clinical trial for the M6-C artificial cervical disc, which will compare single-level cervical disc replacement to single-level cervical fusion.

• Utilizing animal models, the Service continues to characterize mechanisms of action of various orthobiologic materials and their effect on fusion.

• HSS spine surgeons are also studying occult pathogens in patients characterized as having “Failed Back Syndrome.” They will be evaluating tissue samples from surrounding tissue of the hardware to look for occult pathogens and will also study the wear patterns seen on the explanted implants.

• Genetic research in scoliosis continues on two fronts: candidate genes associated with congenital scoliosis and vertebral malformations and gene mapping of adolescent idiopathic scoliosis.

**EDUCATION UPDATES**

• The John R. Cobb Fellowship, a yearlong training program that affords significant exposure to adult spinal disorders and deformity, was awarded to Dr. Brian J. McHugh, the first neurosurgeon to receive the fellowship.

• The Katharine B. and Robert M. Devlin International Spine Research Fellowship, which provides one year of research training through the American Austrian Foundation in Salzburg, was awarded to Dr. Lukas Lampe, a post-medical school graduate from the Paracelsus Medical University of Salzburg.
(Front row, from left) Dr. Robert G. Marx, Dr. Peter J. Moley, Dr. Joseph H. Feinberg, Dr. Andrew D. Pearle, Dr. Frank A. Cordasco, Dr. Sabrina M. Strickland, and Dr. Marci Anne Goolsby. (Back row, from left) Dr. Stephen J. O’Brien, Dr. Danyal H. Nawabi, Dr. Michael J. Maynard, Dr. Stephen Fealy, Dr. Joshua S. Dines, Dr. Jordan D. Metzl, and Dr. Answorth A. Allen.
(Seated and front row, from left) Dr. David W. Altchek, Dr. Russell F. Warren, Dr. Edward V. Craig, Dr. Scott A. Rodeo, Dr. Bryan T. Kelly, Dr. John D. McGillivray, and Dr. Jo A. Hannafin. (Back row, from left) Dr. Riley J. Williams, III, Dr. Anil S. Ranawat, and Dr. James J. Kinderknecht.

Not pictured: Dr. Lisa R. Callahan, Dr. Struan H. Coleman, Dr. David M. Dines, Dr. Kenton H. Fibel, Dr. Lawrence V. Gulotta, Dr. Brian C. Halpern, Dr. Anne M. Kelly, Dr. Osric S. King, Dr. Moira M. McCarthy, Dr. Rock G. Positano, Dr. Hollis G. Potter, Dr. Howard A. Rose, Dr. Jennifer L. Solomon, Dr. Beth E. Shubin Stein, Dr. Samuel A. Taylor, Dr. Brett G. Toresdahl, and Dr. David A. Wang.
The Sports Medicine and Shoulder Service is comprised of orthopaedic surgeons and primary care sports physicians specializing in shoulder, elbow, hip, knee, and foot and ankle injuries. Its members are committed to providing the highest level of sports medicine care for athletes of all levels, always attentive to their current and future performance needs. They serve as team physicians and provide medical coverage for numerous local high school, collegiate, and professional teams and organizations. In addition, the Service includes physician-scientists who pursue an extraordinary level of basic, translational, and clinical research.

**CLINICAL HIGHLIGHTS**

- In 2013, the Sports Medicine and Shoulder Service performed 1,575 inpatient surgeries and 8,212 ambulatory surgeries with a total of 111,860 patient visits.
- HSS received designation as the third FIFA Center of Excellence in the U.S. Under the leadership of Dr. Riley Williams, the Service will serve as an officially FIFA accredited referral center for football (soccer) players.
- HSS formalized its relationship with the United States Olympic Committee. Under the leadership of Dr. Scott Rodeo, athletes, Olympians, junior Olympians, and National Governing Body athletes have access to the Hospital from all over the country.

**RESEARCH INITIATIVES**

- The Service established collaborative groups to identify important research questions in thematic areas.
- Primary research efforts remain centered on hip preservation, knee ligament stability, athletic conditions affecting the shoulder and elbow, shoulder stability, shoulder arthroplasty, meniscus transplantation, rotator cuff tendon healing, and articular cartilage repair.
- Clinical trials continue in the analysis of biomarkers in the ACL-injured knee; evaluation of cartilage contact patterns in patients undergoing meniscus transplantation; examination of bone-marrow derived cells in rotator cuff repair; evaluation of a tissue-engineered implant for articular cartilage replacement; and evaluation of the effect of vitamin D status on rotator cuff tendon healing.
- The Service continues to collect preoperative, intraoperative, and follow-up data for its registries in ACL reconstruction, hip preservation, shoulder arthroplasty, and cartilage defects.
- Basic science research is underway in knee ligament mechanics, shoulder instability, shoulder arthroplasty kinematics and design, tendon and ligament biology, cartilage repair, and meniscus healing and replacement. Ongoing studies are evaluating the role of stem cells and connective tissue progenitor cells in pre-clinical models of tendon, ligament, and meniscus repair.

**EDUCATION UPDATES**

- The Sports Medicine and Shoulder fellowship program accommodates seven accredited fellowship positions, as well as an additional non-accredited international fellow. In addition, a two-year fellowship is offered that permits a dedicated research year. In 2013, the Service welcomed its third primary care fellow.
- Service members continue to educate locally, nationally, and internationally at numerous meetings and by continuing to publish original research papers and chapters for textbooks, and serving as editorial reviewers and book and journal editors. Most recently, Dr. Lawrence Gulotta and Dr. Edward Craig co-authored the textbook, *Massive Rotator Cuff Tears: Diagnosis and Management*. 
The Biomechanics Department conducts basic and applied research aimed at applying the principles of mechanics and materials science to understand and treat orthopaedic problems.

- A robotic simulator for studying foot and ankle mechanics was developed. A one-of-a-kind apparatus, the simulator provides the opportunity to examine the impact of surgical procedures such as ankle fusion and ankle replacement on the function of the foot under a variety of daily activities.

- A new elbow replacement was licensed to a commercial device manufacturer. Collaboration is underway to bring the implant to market in the near future, providing new versatility for the surgeon and improved function and longevity for the patient.

- The motions and instabilities of injured mouse joints were explored using a previously developed model in which compression is applied across the knee. The instabilities induced in intact joints were accurately controlled, demonstrating the appropriateness of the model for examining the role of mechanical forces in the initiation and progression of osteoarthritis.

- In a first for total shoulder replacement, stress analysis was performed on an arthritic shoulder model. The alterations in anatomy and bone tissue properties caused by the disease markedly altered the way loads were transferred across the joint, suggesting new avenues to improve implant design.

- New applications of a comprehensive computer model of the knee were extended to partial knee replacement, showing that even small changes in implant position and orientation alter ligament loads, which may affect loading patterns at the articulating surfaces. These findings have implications for implant failure and progression of osteoarthritis in the remaining compartment.

- Computer simulations of cell activity were used to estimate changes in bone density for patients undergoing prolonged treatment for osteoporosis. The simulations suggest that density gains from anti-resorptive agents can be lost over time. After stopping treatment, reductions in density are expected to occur long before bone quality returns to normal.
PROFESSIONAL STAFF

Surgeon-in-Chief and Medical Director
Todd J. Albert, MD

Clinical Director
Charles N. Cornell, MD

Vice Chair, Education and Academic Affairs
Mathias P. Bostrom, MD

Orthopaedic Research Director
Jo A. Hannafin, MD, PhD

Faculty Development Director
Scott W. Wolfe, MD

Adult Reconstruction and Joint Replacement Division
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Chief, Hip Service
Steven B. Haas, MD
Chief, Knee Service
Mark P. Figgie, MD
Chief, Arthritis Service
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Friedrich Boettner, MD
Mathias P. Bostrom, MD
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Michael L. Parks, MD
Paul M. Pellicci, MD
Amar S. Ranawat, MD
Chitrangani S. Ranawat, MD
Eduardo A. Salvati, MD
Thomas P. Sculco, MD
Surgeon-in-Chief Emeritus
Edwin P. Su, MD
Geoffrey H. Westrich, MD
Philip D. Wilson, Jr., MD
Emeritus
Russell E. Windsor, MD

2013-2014 Fellows
Joseph B. Assini, MD
Kevin A. Cassidy, MD
Michele R. D’Apuzzo, MD
Brett P. Frykberg, MD
Joseph D. Maratt, MD
Mohamed E. Moussa, MD
Jeremy J. Reid, MD
Erik A. Schnaser, MD

Cross-Disciplinary Knee Fellow
Saker Khamaisy, MD

Foot and Ankle Service
Jonathan T. Deland, MD
Matthew M. Roberts, MD

Co-Chiefs
Walther H. O. Bohne, MD
Constantine A. Demetracopoulos, MD
Mark C. Drakos, MD
Andrew J. Elliott, MD
Scott J. Ellis, MD
John G. Kennedy, MD
David S. Levine, MD
Martin J. O’Malley, MD
Harvey Strauss, DPM, FACFAS

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John A. Karbass, MD, MPH
Jeremy M. LaMothe, MD, PhD
Raymond Walls, MD

Hand and Upper Extremity Extremity Service
Edward A. Athanasian, MD
Chief
Michelle G. Carlson, MD
Aaron Dahan, MD
Durett T. Fuka, MD
Robert N. Hotchkiss, MD
Lana Kang, MD
Steve K. Lee, MD
Andrew J. Weiland, MD
Scott W. Wolfe, MD

2013-2014 Fellows
Erik J. Carlson, MD
Soumen Das De, MBBS, MRCS, MMEd, MPH
Andrew C. Ghani, MD
Tyler G. Marks, MD

Hip Preservation Service
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Struan H. Coleman, MD, PhD
David L. Helfet, MD
Dean G. Lorich, MD
Douglas N. Mintz, MD
Peter J. Moley, MD
Danyal H. Nawab, MD

(As of September 2014)
Anil S. Ranawat, MD
Ernest L. Sink, MD
Edwin P. Su, MD

2013-2014 Fellow
Danyal H. Nawab, MD

Limb Lengthening and Complex Reconstruction Service
S. Robert Rozbruch, MD
Chief
Austin T. Fragomen, MD

2013-2014 Fellows
Mitchell Bernstein, MD
Amgad Hakeem Ahmed Amin, MBBCh, MS

Metabolic Bone Disease/Musculoskeletal Oncology Service
Joseph M. Lane, MD
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Juliet B. Aizer, MD, MPH
Panagiota (Penny) Androsoulou, MD
Richard S. Bockman, MD, PhD
Adele L. Boskey, PhD
Azeem M. Farooki, MD
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Alana C. Serota, MD
Robert Schneider, MD

Metabolic Bone Affiliated Staff
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Cathleen L. Raggio, MD

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Andrew Grose, MD
Joseph M. Lane, MD
Dean G. Lorich, MD
John P. Lyden, MD
David S. Wellman, MD

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Aaron Dahan, MD
Emily R. Dobwell, MD, MPH
Shevaun M. Doyle, MD
Daniel W. Green, MD, FACS
Pediatric Orthopaedic Service (continued)

Cathleen L. Raggio, MD
Leon Root, MD
David M. Scher, MD
Ernest L. Sink, MD
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Matthew A. Dow, MD

Spine Service
Frank P. Cammisa, Jr., MD
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Todd J. Albert, MD
John S. Blanco, MD
Orennia Boachie-Adjei, MD
Chief Emeritus, Scoliosis Service
Matthew E. Cunningham, MD, PhD
James C. Farmer, MD
Federico P. Girardi, MD
Charles B. Goodwin, MD
Russel C. Huang, MD
Alexander P. Hughes, MD
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Joseph M. Lane, MD
Darren R. Lebl, MD
Patrick F. O’Leary, MD, FACS, PC
Cathleen L. Raggio, MD
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Andrew A. Sama, MD
Harvinder S. Sandhu, MD
Roger F. Widmann, MD
2013-2014 Fellows
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John C. Quinn, MD
Joshua E. Schroeder, MD
Abdel Majid Sheikh Taha, MD
Haruki Ueda, MD
Joseph E. Weinstein, DO

Sports Medicine and Shoulder Service
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Chief
Answorthy A. Allen, MD
David W. Altchek
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Struan H. Coleman, MD, PhD
Frank A. Cordasco, MD, MS
Edward V. Craig, MD, MPH
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(as of August 2014)
Danyal H. Nawabi, MD
(as of September 2014)
Stephen J. O’Brien, MD, MBA
Andrew D. Pearle, MD
Hollis G. Potter, MD
Anil S. Ranawat, MD
Scott A. Rodeo, MD
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Howard A. Rose, MD
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Sabrina M. Strickland, MD
Samuel A. Taylor, MD
(as of August 2014)
Russell F. Warren, MD
Thomas L. Wickiewicz, MD
Riley J. Williams, III, MD
Primary Care Sports Medicine
Brian C. Halpern, MD
Chief
William J. Briner, Jr., MD
Lisa R. Callahan, MD
Kenton H. Fibel, MD
(as of August 2014)
Marei Anne Goolsby, MD
James J. Kinderknecht, MD
Oscie S. King, MD
Jordan D. Metzl, MD
Peter J. Moley, MD
Rock G. Positano, DPM, MSc, MPH
Jennifer L. Solomon, MD
Brett G. Toresdahl, MD
(as of September 2014)
David A. Wang, MD
(as of September 2014)
2013-2014 Fellows
Donald E. Fowler III, MD
Brian M. Grawe, MD
Timothy B. Griffith, MD
Moira M. McCarthy, MD
Jacqueline L. Munch, MD
Jaron P. Sullivan, MD
Samuel Taylor, MD
Adult Ambulatory Care Center
Alejandro Leali, MD
Medical Director

Department of Biomechanics
Timothy M. Wright, PhD
Director
Josh Baxter, PhD
Yingxin Gao, PhD
Christopher J. Hernandez, PhD
Carl W. Inhauser, PhD
Joseph D. Lipman, MS
Suzanne A. Maher, PhD
Marjolein C.H. van der Meulen, PhD

Research Division
Steven R. Goldring, MD
Chief Scientific Officer
Lionel B. Ivashkiv, MD
Associate Chief Scientific Officer and Director of Basic Research
Robert N. Hotchkiss, MD
Director of Clinical Research and Chief Innovation Officer

AFFILIATIONS
The affiliations of Hospital for Special Surgery enable orthopaedic surgery residents and fellows to benefit from a broad range of research and training opportunities.

Memorial Sloan Kettering Cancer Center
Orthopaedic Service
John H. Healey, MD
Chief

New York Hospital Queens
Department of Orthopaedics and Rehabilitation
Jeffrey E. Rosen, MD
Chair

NewYork-Presbyterian Hospital/ Weill Cornell Medical Center
Combined Orthopaedic Trauma Service
David L. Helfet, MD
Director
Dean G. Lorich, MD
Director, Orthopaedic Trauma Service, NewYork-Presbyterian Hospital/ Weill Cornell Medical Center

James J. Peters Veterans Administration Medical Center
Bronx, NY
Orthopaedic Surgery
Allan E. Inglis, Jr., MD
Chief

Westchester Medical Center
Orthopaedic Surgery
David E. Asprinio, MD
Chair and Program Director
Endowed chairs, professorships, and fellowships recognize the generosity of our donors and sustain excellence in musculoskeletal care, research, and medical education.

### NAMED CHAIRS AND PROFESSORSHIPS

<table>
<thead>
<tr>
<th>Chair/Professorship</th>
<th>Name(s)</th>
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</thead>
<tbody>
<tr>
<td>Franchellie M. Cadwell Chair</td>
<td>Sergio Schwartzman, MD</td>
</tr>
<tr>
<td>Coleman Chair in Magnetic Resonance Imaging Research</td>
<td>Hollis G. Potter, MD</td>
</tr>
<tr>
<td>The Anne and Joel Ehrenkranz Chair in Hand and Upper Extremity Research</td>
<td>Robert N. Hotchkiss, MD</td>
</tr>
<tr>
<td>The Anne and Joel Ehrenkranz Chair in Perioperative Medicine</td>
<td>Linda A. Russell, MD</td>
</tr>
<tr>
<td>Joel and Anne Bick Ehrenkranz Research Chair</td>
<td>Allan E. Inglis, MD, Chair in Surgical Arthritis Mark P. Figgie, MD</td>
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<tr>
<td>Collette Kean Research Chair</td>
<td>Jane E. Salmon, MD</td>
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<tr>
<td>F.M. Kirby Chair in Orthopaedic Biomechanics</td>
<td>Timothy M. Wright, PhD</td>
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<tr>
<td>David H. Koch Chair for Arthritis and Tissue Degeneration Research</td>
<td>Lionel B. Ivashkiv, MD</td>
</tr>
<tr>
<td>Korein-Wilson Professorship in Orthopaedic Surgery</td>
<td>Todd J. Albert, MD</td>
</tr>
<tr>
<td>Richard S. Laskin, MD, Chair in Musculoskeletal Education</td>
<td>Charles N. Cornell, MD</td>
</tr>
<tr>
<td>David B. Levine, MD, Chair in Scoliosis</td>
<td>Oheneba Boachie-Adjei, MD</td>
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<tr>
<td>C. Ronald MacKenzie, MD, Chair in Ethics and Medicine</td>
<td>C. Ronald MacKenzie, MD</td>
</tr>
<tr>
<td>Richard L. Menschel Research Chair</td>
<td>Steven R. Goldring, MD</td>
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<tr>
<td>Chitranjan S. Ranawat, MD, Chair in Adult Reconstruction and Joint Replacement</td>
<td>Douglas E. Padgett, MD</td>
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<tr>
<td>Leon Root, MD, Chair in Pediatric Orthopaedics</td>
<td>Leon Root, MD</td>
</tr>
<tr>
<td>Benjamin M. Rosen Chair in Immunology and Inflammation Research</td>
<td>Mary K. Crow, MD</td>
</tr>
<tr>
<td>Joseph P. Routh Professor of Rheumatic Diseases in Medicine</td>
<td>Mary K. Crow, MD</td>
</tr>
<tr>
<td>Virginia F. and William R. Salmon Chair in Musculoskeletal Research</td>
<td>Carl Blobel, MD, PhD</td>
</tr>
<tr>
<td>Eduardo A. Salvati, MD, Chair in Hip Arthroplasty</td>
<td>Eduardo A. Salvati, MD</td>
</tr>
<tr>
<td>Thomas P. Sculco, MD, Chair in Orthopaedic Surgery</td>
<td>Thomas P. Sculco, MD</td>
</tr>
<tr>
<td>The Peter Jay Sharp Chair in Lupus Research</td>
<td>Alessandra B. Pernis, MD</td>
</tr>
<tr>
<td>St. Giles Research Chair</td>
<td>Theresa T. Lu, MD, PhD</td>
</tr>
<tr>
<td>Starr Chair in Mineralized Tissue Research</td>
<td>Adegbeke L. Boskey, PhD</td>
</tr>
<tr>
<td>Starr Chair in Tissue Engineering Research</td>
<td>Chitra Dahia, PhD</td>
</tr>
<tr>
<td>Swanson Professor of Biomedical Engineering in the Sibley School of Mechanical and Aerospace Engineering at Cornell University</td>
<td>Marjolein van der Meulen, PhD</td>
</tr>
<tr>
<td>Russell F. Warren Research Chair</td>
<td>Suzanne A. Maher, PhD</td>
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### NAMED FELLOWSHIPS

<table>
<thead>
<tr>
<th>Fellowship</th>
<th>Name(s)</th>
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<tbody>
<tr>
<td>Robert and Helen Appel Fellowship in Biomedical Engineering</td>
<td>Oluummiayo (Funmi) Adebayo</td>
</tr>
<tr>
<td>Finn and Barbara Caspersen Fellowship for Spine Research</td>
<td>Joshua E. Schroeder, MD</td>
</tr>
<tr>
<td>Charles L. Christian Research Fellowship</td>
<td>Franck J. Barrat, PhD</td>
</tr>
<tr>
<td>Ira W. DeCamp Fellowship in Musculoskeletal Genetics</td>
<td>Mary Goldring, PhD</td>
</tr>
<tr>
<td>Leo Farbman Fellowship for Pediatric Musculoskeletal Research</td>
<td>Lorene C. Janowski, DPS, OTR/L</td>
</tr>
<tr>
<td>Helen Frankenthaler Fellowship in Restorative Mobility</td>
<td>Andrew D. Pearle, MD</td>
</tr>
<tr>
<td>Mary Rodgers and Henry Guettel Fellowship in Biomedical Mechanics</td>
<td>Christina Esposito, PhD</td>
</tr>
<tr>
<td>Ken and Jill Iscol Fellowship in Orthopaedic Research</td>
<td>Andrew D. Pearle, MD</td>
</tr>
<tr>
<td>Irving and Sally Lipstock Fellowship in Orthopaedic Surgery</td>
<td>Lazaros Poultsides, MD, PhD</td>
</tr>
<tr>
<td>Ludwig Fellowship for Women’s Sports Medicine Research</td>
<td>Georgios Triantafyllopoulos, MD</td>
</tr>
<tr>
<td>Robert and Gillian Steel Fellowship in Musculoskeletal Research</td>
<td>Inez Rogatsky, PhD</td>
</tr>
<tr>
<td>Nancy Dickerson Whitehead Research Fellowship</td>
<td>Teresina Laragione, PhD</td>
</tr>
<tr>
<td>Fellowship in Arthroplasty</td>
<td>Edward Purdue, PhD</td>
</tr>
<tr>
<td>Immunology and Inflammation Fellowship</td>
<td>Sergei Rudchenko, PhD</td>
</tr>
</tbody>
</table>
The orthopaedic surgeons at Hospital for Special Surgery are regularly cited for their professional achievements and outstanding contributions to musculoskeletal medicine, research, and education. They manage the care of numerous major professional sports teams and organizations, hold leadership positions and serve on committees for national and international organizations and professional societies, serve on editorial boards and as reviewers for peer-reviewed journals, and are authors and co-authors of several book chapters and textbooks.

AWARDS AND SPECIAL RECOGNITION

Answorth A. Allen, MD
Head Team Orthopaedist, New York Knicks
Head Team Physician, St. John’s University
Orthopaedic Consultant, West Indies Cricket Board of Control
Consultant, Major League Baseball

David W. Altchek, MD
Medical Director, New York Mets
Medical Director, New Jersey Nets

Oheneba Boachie-Adjei, MD
International Peace Award at Ahmadiyya Muslim Community’s 30th National 2013 Peace Symposium
Lifetime Achievement Award, Hospital for Special Surgery
Russell Hibbs Award for Best Clinical Presentation, Scoliosis Research Society Annual Meeting

William J. Briner, Jr., MD
Head Team Physician, USA Volleyball

Lisa R. Callahan, MD
Chief Medical Officer and Vice President, Player Care, New York Knicks and New York Liberty
Chief Medical Officer, New York Rangers

Frank P. Cammisa, Jr., MD
Spinal Consultant, New York Giants
Spinal Consultant, National Hockey League Players’ Association
2013 Best Podium Presentation, Topographic 3D Laser Surface Analysis of Wear and Deformation of Retrieved Total Disc Replacements, Cervical Spine Research Society
2013 Young Investigator Award, International Society for the Study of the Lumbar Spine
2013 Best Poster Award, European Section, Cervical Spine Research Society
2013 Outstanding Paper Award for Surgical Science, North American Spine Society
2013 Best Abstract Award, European Society of Anesthesiology

Struan H. Coleman, MD, PhD
Head Team Physician, New York Mets
Resident Research Award and Travel Grant, Hip Session, Annual Meeting, Eastern Orthopaedic Association

Charles N. Cornell, MD
Achievement Award, American Academy of Orthopaedic Surgeons

Michael B. Cross, MD
Emerging Leaders Program, American Orthopaedic Association
Jorge O. Galante, MD Fellow Research Award – Thesis Day 2013, Rush University Medical Center

Matthew E. Cunningham, MD, MPH
Vitals Compassionate Doctor Award

David M. Dines, MD
Medical Director, Association of Tennis Professionals – ATP World Tour
Team Physician, U.S. Davis Cup Tennis Team
Team Physician and Medical Director, Long Island Ducks
Minor League Baseball
Head Orthopaedic Consultant, U.S. Open Tennis

Joshua S. Dines, MD
Team Physician, Long Island Ducks, Minor League Baseball Team
Orthopaedic Consultant, Los Angeles Dodgers
Consultant, U.S. Tennis
Richard S. Laskin Award for Outstanding Young Attending Educator, Hospital for Special Surgery

Emily R. Dodwell, MD, MPH
St. Giles Young Investigator Award and Grant, Pediatric Orthopaedic Society of North America

Joseph H. Feinberg, MD
Team Physician, St. Peter’s College

Federico P. Girardi, MD
2013 Outstanding Paper Award for Surgical Science, North American Spine Society
2013 Young Investigator Award, Spine
2013 Diploma de Honor, Sociedad Colombiana de Cirugía Ortopédica y Traumatología, Cartagena, Colombia
2013 Recognition of Merit, Latin American Society of Orthopedics and Traumatology Federación de Sociedades y Asociaciones Latinoamericanas de Ortopedia y Traumatología (SCLAOT), Cartagena, Colombia

Marcia Anne Goolsby, MD
Consulting Team Physician, New York Liberty

Daniel W. Green, MD
Excellence in Research Award, Development and Validation of a Pediatric Sports Activity Rating Scale, American Orthopaedic Society for Sports Medicine
Ruth Jackson Award (Excellence in Clinical Research), CT and X-Ray Examination of the Immature Acetabulum is Appropriate Only after Closure of the Triradiate Cartilage, American Academy of Orthopaedic Surgeons
Achievement Award in Recognition of Volunteer Activities, American Academy of Orthopaedic Surgeons

Brian C. Halpern, MD
Consultant, New York Mets

Jo A. Hannafin, MD, PhD
Team Physician, USRowing
Head Team Physician, New York Liberty
Physician of the Year for Clinical Excellence, Castle Connolly
2013-2014 NOTABLE ACHIEVEMENTS

Alexander P. Hughes, MD
2013 Outstanding Paper Award for Surgical Science, North American Spine Society
2013 Best Abstract Award, European Society of Anesthesiology
Anne M. Kelly, MD
Team Physician, St. John's University
Bryan T. Kelly, MD
Head Team Physician, New York Rangers
Associate Team Physician, New York Giants
Assistant Team Physician, New York Red Bulls
Consulting Team Physician, New Jersey Nets
John G. Kennedy, MD
2013 Media Orthopaedic Reporting Excellence (MORE) Award, American Academy of Orthopaedic Surgeons
Han Jo Kim, MD
Edger G. Dawson Traveling Fellow, Scoliosis Research Society
James J. Kinderknecht, MD
Assistant Team Physician, St. John's University
Assistant Team Physician, New York Mets
Consulting Team Physician, New York Giants
Oscar S. King, MD
Associate Medical Director, St. John's University
Medical Director, USA Boxing Metro Chapter
Darren R. Lebl, MD
2013 Interactive Educational Program Award, Spontaneous Atraumatic Facet Dislocation of the Sub-axial Cervical Spine in the Setting of RA (case presentation), Spine Fellows and Young Spine Surgeon Course
2013 Young Investigator Award, Spine
2013 Outstanding Paper Award for Surgical Science, North American Spine Society
2013 Best Podium Presentation Award, Fourth Annual Meeting (first author), Cervical Spine Research Society, Asia Pacific Division
Robert G. Marx, MD, MSc, FRCS
Best Paper Award, Shoulder Program Oral Presentation, Defining Indications for Rotator Cuff Repair: Predictors of Failure of Nonoperative Treatment of Chronic, Symptomatic, Full-Thickness Rotator Cuff Tears (co-investigator), 12th International Congress for Shoulder and Elbow
Excellence in Research Surgery, Development and Validation of a Pediatric Sports Activity Rating Scale, American Orthopaedic Society for Sports Medicine
Michael J. Maynard, MD
Medical Director, Department of Athletics, Marist College
Patrick F. O'Leary, MD
College of Medicine and Health Alumni Achievement Award, University College Cork, Ireland
Martin J. O'Malley, MD
Medical Staff, New Jersey Nets
Foot and Ankle Consultant, New York Knicks
Foot and Ankle Consultant, New York Giants
Foot and Ankle Consultant, New York City Ballet
Foot and Ankle Consultant, Iona College Athletics
Andrew D. Pearle, MD
Associate Team Physician, New York Mets
Anil S. Ranawat, MD
Team Physician, New York Mets
Bernard A. Rawlins, MD
Spine Consultant, New York Knicks
John G. Kennedy, MD
2013 Media Orthopaedic Reporting Excellence (MORE) Award, American Academy of Orthopaedic Surgeons
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2013 Best Podium Presentation Award, Fourth Annual Meeting (first author), Cervical Spine Research Society, Asia Pacific Division
Robert G. Marx, MD, MSc, FRCS
Best Paper Award, Shoulder Program Oral Presentation, Defining Indications for Rotator Cuff Repair: Predictors of Failure of Nonoperative Treatment of Chronic, Symptomatic, Full-Thickness Rotator Cuff Tears (co-investigator), 12th International Congress for Shoulder and Elbow
Excellence in Research Surgery, Development and Validation of a Pediatric Sports Activity Rating Scale, American Orthopaedic Society for Sports Medicine
Michael J. Maynard, MD
Medical Director, Department of Athletics, Marist College
Patrick F. O'Leary, MD
College of Medicine and Health Alumni Achievement Award, University College Cork, Ireland
Martin J. O'Malley, MD
Medical Staff, New Jersey Nets
Foot and Ankle Consultant, New York Knicks
Foot and Ankle Consultant, New York Giants
Foot and Ankle Consultant, New York City Ballet
Foot and Ankle Consultant, Iona College Athletics
Scott A. Rodeo, MD
Associate Team Physician, New York Giants
Chairman, USA Swimming Sports Medicine Committee
Thomas P. Sculco, MD
Austrian Cross First Class for Arts and Sciences
Honorary Member, Austrian Orthopaedic Society
Honorary Member, Hellenic Orthopaedic Society
Ernest L. Sink, MD
Achievement Award in Recognition of Volunteer Activities, American Academy of Orthopaedic Surgeons
Russell F. Warren, MD
Team Physician, New York Giants
Thomas L. Wickiewicz, MD
Orthopaedic Consultant, Department of Athletics, St. Peter's College
Roger F. Widmann, MD
Excellence in Research Award, Development and Validation of a Pediatric Sports Activity Rating Scale, American Orthopaedic Society for Sports Medicine
Riley J. Williams, III, MD
Head Team Physician, New Jersey Nets
Medical Director, New York Red Bulls
Head Team Physician, Department of Athletics, Iona College
New York Orthopaedic Consultant, National Football League

LEADERSHIP POSITIONS AND APPOINTMENTS

Todd J. Albert, MD
Board of Directors, International Meeting of Advanced Spinal Techniques, Scoliosis Research Society
Past Chair, International Meeting of Advanced Spinal Techniques, Scoliosis Research Society
Development Chair, American Orthopaedic Association
Board of Directors, American Orthopaedic Association
Michael M. Alexiades, MD
President, Weill Cornell Medical College Alumni Association
Board of Overseers, Weill Cornell Medical College
Oral Examiner, American Board of Orthopaedic Surgery
Answorth A. Allen, MD
Board of Trustees, Hospital for Special Surgery
Mater Instructor, Knee and Shoulder Surgery, Learning Center, American Orthopaedic Society for Sports Medicine
David E. Asprinio, MD  
Strategic Planning Committee, New York Medical College

Edward A. Athanasian, MD  
Long Island Committee, Harvard Medical School

Oheneba Boachie-Adjei, MD  
Fellowship Criteria Task Force, 50th Anniversary Task Force, and Globalization Committee, Scoliosis Research Society

Mathias P. Bostrom, MD  
Board of Trustees, Hospital for Special Surgery  
Board Member and Meeting Chairman, International Society for Fracture Repair  
Board of Directors and Fellowship Committee, The Hip Society  
Board of Directors, Presidential Line (2015), and Member-at-Large, Orthopaedic Research Society  
Study Section, Musculoskeletal Tissue Engineering, National Institutes of Health

William J. Briner, Jr., MD  
Chair, USA Volleyball Sports Medicine and Performance Commission

Robert L. Buly, MD  
Board Member, Maurice E. Muller Foundation of North America  
Secretary, International Society for Hip Arthroplasty

Frank P. Cammisa, Jr., MD  
Medical Advisory Board, The Alan T. Brown Foundation to Cure Paralysis  
Board of Trustees, Planning Committee, Hospital for Special Surgery

Michelle G. Carlson, MD  
Founder and Co-Chair, Elite Athlete Hand and Wrist Study Group, and Founder and Co-Chair, Women in Hand Surgery Group, American Society for Surgery of the Hand  
Annual Program Committee, Leadership Development Committee, Nominating Committee, and Strategic Planning Committee, American Society for Surgery of the Hand  
Website Committee, Ruth Jackson Orthopaedic Society  
Study Group, Shriner’s Pediatric Hand Surgery

Struan H. Coleman, MD, PhD  
Treasurer, Major League Baseball Team Physicians Association

Frank A. Cordasco, MD, MS  
Executive Board, Member-at-Large, Nominating Committee, Closed Meeting Program Committee, American Shoulder and Elbow Surgeons  
Research Committee, American Orthopaedic Society for Sports Medicine  
American Shoulder and Elbow Surgeons Representative on the Health Policy Committee, Board of Specialties Societies, Shoulder and Elbow Program Subcommittee; and Appropriate Use Criteria Review Panel for Optimizing the Management of Rotator Cuff Problems, representing the American Orthopaedic Society of Sports Medicine, American Academy of Orthopaedic Surgeons  
Medical Advisory Board, Children of China Pediatrics Foundation  
Board of Directors, Baryshnikov Arts Center  
Board of Directors, Jacobs Pillow Dance Festival

Charles N. Cornell, MD  
Board of Trustees, Hospital for Special Surgery

Edward V. Craig, MD, MPH  
Medical Advisory Board, AmeriCares  
Board of Directors, Judiciary Committee, and Chair, ABC Travelling Fellowship Committee, American Academy of Orthopaedic Surgeons  
Instructional Course Committee and Planning and Development Committee, American Shoulder and Elbow Surgeons

Aaron Daluiski, MD  
Public Education Committee, American Society for Surgery of the Hand  
Topic Chair, Hand and Wrist, Orthopaedic Research Society

David M. Dines, MD  
Industry Relations Committee and 2016 ICSES Committee, American Shoulder and Elbow Surgeons  
Education Committee, American Orthopaedic Association  
Shoulder and Elbow Instructional Course Lecture Committee, American Academy of Orthopaedic Surgeons

Joshua S. Dines, MD  
Secretary, Council on Sports Medicine  
Shoulder and Elbow Annual Meeting Subcommittee, American Academy of Orthopaedic Surgeons  
Research Committee and Technology Committee, American Shoulder and Elbow Society

Emily R. Dodwell, MD, MPH  
Evidence-Based Practice Committee, Pediatric Orthopaedic Society of North America

Shevaun M. Doyle, MD  
Pediatric Orthopaedic Instructional Course Committee, American Academy of Orthopaedic Surgeons

Mark C. Drakos, MD  
Young Physicians Committee, American Orthopaedic Foot and Ankle Society  
Associate Instructor, Foot and Ankle Course, Arthroscopy Association of North America

Andrew J. Elliott, MD  
Honors and Awards Committee and Psychomotor Lab Advisory Committee, American Orthopaedic Foot and Ankle Society

Scott J. Ellis, MD  
Chair, Young Physicians Committee, Awards Committee, Program Committee, Safety Summit, and Hand, Foot, and Ankle Workgroup, American Orthopaedic Foot and Ankle Society

James C. Farmer, MD  
Spine Evaluation Subcommittee and Medical Student and Fellow Education Committee, American Academy of Orthopaedic Surgeons

Stephen Fealy, MD  
Vice President, Physician Scientific Society

Research Committee and Major League Baseball Association Technology Committee, Arthroscopy Association of North America

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Treasurer, Limb Lengthening and Reconstruction Society
Federico P. Girardi, MD
International Medical Graduate Committee, Medical Society of the State of New York
Patient-Based Outcomes Committee and Global Outreach Committee, Scoliosis Research Society
Publications Committee, International Society for the Advancement of Spine Surgery

Marci Anne Goolsby, MD
Annual Meeting Program Planning Committee, Practice and Policy Committee, and Research Committee, American Medical Society for Sports Medicine
Representative, Female Athlete Triad Coalition, American Medical Society for Sports Medicine

Daniel W. Green, MD
Board Member, New York State Society of Orthopaedic Surgeons
New York Board of Councilors Representative and Communication Cabinet Member, American Academy of Orthopaedic Surgeons
Board Member, New York County Medical Society Representative for the Pediatric Orthopaedic Society of North America, American College of Surgeons
Education Committee, Pediatric Orthopaedic Society of North America
Program Committee and Patient Education Committee, Scoliosis Research Society
Clinic Chief, Association of Children’s Prosthetic-Orthotic Clinics

Steven B. Haas, MD
Program Chair and New York Coordinator, John N. Insall Travelling Fellowship, The Knee Society

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Board of Trustees, Budget and Finance Committee, and Committee on Committees, American Orthopaedic Society for Sports Medicine
Vice President, Board of Trustees, National Rowing Foundation
Program Chair and President-Elect, Herodicus Society, 2013-2014

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Board of Trustees, Hospital for Special Surgery
Trustee, AO Foundation
Chairman Emeritus, Clinical Investigation and Documentation, AO Foundation Technical Commission, AO Foundation

Robert N. Hotchkiss, MD
Board of Trustees, Hospital for Special Surgery

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Political Liaison Committee, New York County Medical Society
Research Grant Committee, Scoliosis Research Society

Lana Kang, MD
Diversity Committee, American Society for Surgery of the Hand
Committee Representative, Medical Society of the State of New York
Research Development Committee, American Academy of Orthopaedic Surgeons
Distinguished Clinician Educator Award Committee, American Orthopaedic Association
Resident/Fellow Abstract Review Committee, New York Society for Surgery of the Hand

John G. Kennedy, MD
Co-Chair, International Cartilage Repair Counselor Group
Co-Chair, International Symposium on Cartilage Repair of the Ankle – Asia 2013
Board Member, European Society of Sports Traumatology, Knee Surgery and Arthroscopy – Ankle and Foot Association

James J. Kinderknecht, MD
Physician Director, Board of Certification, Athletic Trainers
Medical Consultant, National Hockey Players’ Association
Medical Advisory Board, New York State Athletic Commission

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Foundation Board, American Medical Society for Sports Medicine

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Study Section, National Institutes of Health and National Institute of Arthritis and Musculoskeletal and Skin Diseases
Chair, MOAC Recertification Program, American Academy of Orthopaedic Surgeons

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Treasurer, New York Society for Surgery of the Hand

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Technical Commission and Osteoporosis Task Force, AO Foundation
Intramedullary Nail Working Group and Osteoporosis Task Force, AO-ASIF

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Appropriateness Criteria Committee, American College of Radiology
Program Chair, Musculoskeletal Radiology, New York Roentgen Society Annual Meeting
Program Committee for Research Presentations in Musculoskeletal Radiology, American Roentgen Ray Society

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Michael L. Parks, MD
Board Member-at-Large and Health Policy Committee, American Association of Hip and Knee Surgeons

2013-2014 NOTABLE ACHIEVEMENTS

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John G. Kennedy, MD
Co-Chair, International Cartilage Repair Counselor Group
Co-Chair, International Symposium on Cartilage Repair of the Ankle – Asia 2013
Board Member, European Society of Sports Traumatology, Knee Surgery and Arthroscopy – Ankle and Foot Association

James J. Kinderknecht, MD
Physician Director, Board of Certification, Athletic Trainers
Medical Consultant, National Hockey Players’ Association
Medical Advisory Board, New York State Athletic Commission

Osric S. King, MD
Foundation Board, American Medical Society for Sports Medicine

Joseph M. Lane, MD
Study Section, National Institutes of Health and National Institute of Arthritis and Musculoskeletal and Skin Diseases
Chair, MOAC Recertification Program, American Academy of Orthopaedic Surgeons

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Leadership Circle, American Foundation for Surgery of the Hand
Trustee-at-Large, New York Foundation for Surgery of the Hand
Treasurer, New York Society for Surgery of the Hand

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Technical Commission and Osteoporosis Task Force, AO Foundation
Intramedullary Nail Working Group and Osteoporosis Task Force, AO-ASIF

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Appropriateness Criteria Committee, American College of Radiology
Program Chair, Musculoskeletal Radiology, New York Roentgen Society Annual Meeting
Program Committee for Research Presentations in Musculoskeletal Radiology, American Roentgen Ray Society

Douglas E. Padgett, MD
Board Member-at-Large and Committee on Education, American Association of Hip and Knee Surgeons

Michael L. Parks, MD
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Arthroscopy Committee, International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine
Technology Committee, American Orthopaedic Society for Sports Medicine
Anterior Cruciate Ligament Study Group

Rock G. Positano, DPM, MSc, MPH
Deputy Chairman, Board of Trustees,
New York College of Podiatric Medicine
Board of Trustees, Children's Health Fund

Cathleen L. Raggio, MD
Medical Advisory Council, Osteogenesis Imperfecta Foundation
Advocacy Committee; Research Committee; Annual Meeting
Abstract Reviewer, Pediatric Orthopaedic Society of North America
Advocacy Committee, Orthopaedic Research Society
International Scoliosis Genetics Interest Group
Chairman, Data and Safety Monitoring Board, National Institute
of Arthritis and Musculoskeletal and Skin Diseases

Amar S. Ranawat, MD
Chairman, Technical Exhibits Committee,
Eastern Orthopaedic Association

Anil S. Ranawat, MD
Emerging Leadership Forum, American Orthopaedic Association

Chitranjan S. Ranawat, MD
President, Eastern Orthopaedic Association
President, Eastern Orthopaedic Education Foundation
Chairman, Ranawat Orthopaedic Research Foundation
Chairman, Annual "ROC Advances and Techniques in Joint Replacement Surgery"

Bernard A. Rawlins, MD
Examiner, American Board of Orthopaedic Surgery

Matthew M. Roberts, MD
Board Member, New York State Society of Orthopaedic Surgeons
Postgraduate Education and Training Committee, and Course Director, Resident Review Course, American Orthopaedic Foot and Ankle Society

Scott A. Rodeo, MD
Chairman, Sports Medicine Committee, USA Swimming

Leon Root, MD
Chairman, Orthopaedic Section, New York Academy of Medicine

S. Robert Rozbruch, MD
President Emeritus, Limb Lengthening and Reconstruction Society

Thomas P. Sculco, MD
Board of Trustees, Hospital for Special Surgery
Board of Trustees, Orthopaedic Education and Research Foundation (OREF)

Beth E. Shubin Stein, MD
Program Committee, American Orthopaedic Society for Sports Medicine

Ernest L. Sink, MD
Board of Directors, Education Council Chair; Pediatrics
Instructional Course Committee; Program Committee; Chair, Specialty Day; and Chair, Sub-Specialty Day,
Pediatric Orthopaedic Society of North America
Medical Advisory Board, International Hip Dysplasia Institute

Jennifer L. Solomon, MD
Women's Sports Medicine Committee,
Association of American College of Sports Medicine

Harvey Strauss, DPM, FACFAS
Board of Directors, New York Division,
New York State Podiatric Medical Association

Sabrina L. Strickland, MD
Education Committee, American Orthopaedic Society for Sports Medicine
Communications Cabinet, American Academy of Orthopaedic Surgeons
Communications Committee, Arthroscopy Association of North America

Edwin P. Su, MD
Hip Program Subcommittee, American Academy of Orthopaedic Surgeons

Russell F. Warren, MD
Board of Trustees, Hospital for Special Surgery

Andrew J. Weiland, MD
Chairman, American Foundation for Surgery of the Hand
Nominating Committee, American Society for Surgery of the Hand

Thomas L. Wickiewicz, MD
Board of Trustees, Medical Publishing Group,
American Orthopaedic Society for Sports Medicine

Roger F. Widmann, MD
Board of Trustees, Development Committee,
Hospital for Special Surgery

Riley J. Williams, III, MD
Research Committee and Education Committee,
American Orthopaedic Society for Sports Medicine
Technology Committee, American Shoulder and Elbow Society
Anterior Cruciate Ligament Study Group

Scott W. Wolfe, MD
President-Elect, New York Society for Surgery of the Hand
Electronic Information Committee, American Society for Surgery of the Hand

Timothy M. Wright, PhD
Education Committee, The Knee Society
EDIToRIAL aPPOINtMENTS

Todd J. Albert, MD
Deputy Editor, Spinal Deformity Journal
Associate Editor: Spine, Journal of Spinal Disorders and Techniques
Editorial Board, Jefferson Orthopaedic Journal;
Orthopaedic Technology Review, SpineUniverse.com;
Allaboutbackpain.com; Stryker Hyperguide – Spine Section
Editor; The Spine Journal; Orthopaedics Today; Spine Surgery Today

David W. Altchek, MD
Reviewer, The American Journal of Sports Medicine

Edward A. Athanasian, MD

John S. Blanco, MD
Reviewer, Journal of Pediatric Orthopaedics

Mathias P. Bostrom, MD
Editorial Board, HSS Journal: The Musculoskeletal Journal of Hospital for Special Surgery

Frank P. Cammisa, Jr., MD
Deputy Editor, International Journal of Spine Surgery

Michelle G. Carlson, MD
Reviewer: Journal of Hand Surgery; Journal of Hand and Microsurgery; Sports Health

Charles N. Cornell, MD
Editor-in-Chief and Chair, Advisory Board, HSS Journal: The Musculoskeletal Journal of Hospital for Special Surgery
Senior Associate Editor, Clinical Orthopaedics and Related Research

Edward V. Craig, MD, MPH
Co-Author, Massive Rotator Cuff Tears: Diagnosis and Management (Springer)

Michael B. Cross, MD
Editorial Board, The Bone & Joint Journal
Clinical Lead, Hip Specialty, The Bone & Joint Journal

Matthew E. Cunningham, MD, PhD
Reviewer, Clinical Orthopaedics and Related Research

Aaron Daluiski, MD
Associate Editor, Journal of Hand Surgery
Reviewer: Clinical Orthopaedics and Related Research; Journal of Orthopaedic Research

Jonathan T. Deland, MD
Associate Editor, Foot & Ankle International

David M. Dines, MD
Board of Trustees and Treasurer, Journal of Shoulder and Elbow Surgery

Joshua S. Dines, MD
Chief Social Media Editor, Journal of Shoulder and Elbow Surgery
Editorial Board, The American Journal of Orthopaedics
Associate Editor: Sports Medicine; The American Journal of Orthopaedics

Emily R. Dodwell, MD, MPH
Reviewer: Journal of Pediatric Orthopaedics; The Journal of Bone & Joint Surgery

Mark C. Drakos, MD
Reviewer, Clinical Orthopaedics and Related Research

Scott J. Ellis, MD
Editorial Board, HSS Journal: The Musculoskeletal Journal of Hospital for Special Surgery

Joseph H. Feinberg, MD
Editorial Board, HSS Journal: The Musculoskeletal Journal of Hospital for Special Surgery

Federico P. Girardi, MD
Deputy Editor, International Journal of Spine Surgery

Daniel W. Green, MD
Editor, Orthopaedics Section, Current Opinion in Orthopaedics
Consultant Reviewer: Journal of Pediatric Orthopaedics; Clinical Orthopaedics and Related Research
Reviewer, Spine

Andrew Grose, MD
Associate Editor, The American Journal of Orthopedics

Lawrence V. Gulotta, MD
Co-Author, Massive Rotator Cuff Tears: Diagnosis and Management (Springer)

David L. Helfet, MD
Associate Editor, Trauma, The American Journal of Orthopedics

Russel C. Huang, MD
Editorial Board, HSS Journal: The Musculoskeletal Journal of Hospital for Special Surgery

Seth A. Jerabek, MD
Editorial Board, The American Journal of Orthopedics

Anne M. Kelly, MD
Reviewer, The American Journal of Sports Medicine

Han Jo Kim, MD
Editorial Board, HSS Journal: The Musculoskeletal Journal of Hospital for Special Surgery

Joseph M. Lane, MD
Editorial Board, Bone; The Journal of Arthroplasty; Journal of Orthopaedic Research; Spine

Alejandro Leali, MD
Senior Associate Editor, HSS Journal: The Musculoskeletal Journal of Hospital for Special Surgery

Darren R. Lebl, MD
Editorial Board, HSS Journal: The Musculoskeletal Journal of Hospital for Special Surgery
2013-2014 SELECTED PUBLICATIONS

ADULT RECONSTRUCTION AND JOINT REPLACEMENT DIVISION


Cross MB, Cicala E, Nam D, McArthur BA, Lipman JD, Figgie MP. Results of custom-fit, noncemented, semiconstrained total elbow arthroplasty for inflammatory arthritis at an average of eighteen years of follow-up. *Journal of Shoulder and Elbow Surgery*. 2014 Sep;23(9):1368-73.


2013-2014 SELECTED PUBLICATIONS


Poultsides LA, Mensentusid SG, Do HT, Sculco TP, Figge MP. Perioperative morbidity and mortality of same-admission staged bilateral TKA. *Clinical Orthopaedics and Related Research.* 2014 Jul 2. [Epub ahead of print]


2013-2014 SELECTED PUBLICATIONS


**FOOT AND ANKLE SERVICE**


Baxter JR, Mani SB, Chan JY, Vucano E, Ellis SJ. Crossed-screws provide greater tarsometatarsal fusion stability compared to compression plates. *Foot & Ankle Specialist*. 2014 Jul 21. [Epub ahead of print]


2013-2014 SELECTED PUBLICATIONS


HAND AND UPPER EXTREMITY SERVICE


2013-2014 SELECTED PUBLICATIONS

HIP PRESERVATION SERVICE


2013-2014 SELECTED PUBLICATIONS


Ozturk BY, Kelly BT. Heterotopic ossification in portal sites following hip arthroscopy. Archives of Orthopaedic and Trauma Surgery. 2013 Jul;133(7):979-84.


LIMB LENGTHENING AND COMPLEX RECONSTRUCTION SERVICE


**METABOLIC BONE DISEASE/ MUSCULOSKELETAL ONCOLOGY SERVICE**


Fufa DT, Chuang SS, Yang JY. Postburn contractures of the hand. *Journal of Hand Surgery (Am)*. 2014 Sep 17. [Epub ahead of print]


2013-2014 SELECTED PUBLICATIONS


PEDIATRIC ORTHOPAEDIC SERVICE


**SPINE SERVICE**


pseudoarthrosis: a novel salvage technique in 10 patients. Girardi FP. Reamed transacral interbody fusion for L5-s1

Vertebral artery injury associated with blunt cervical spine

arthroplasty: should patients have preoperative dental clearance?
Lampley A, Huang RC, Arnold WV, Parvizi J. Total joint

spondylolisthesis in the New York area. Medicine and Science in


Atesok K, Fu FH, Wolf MR, Ochi M, Jazrawi LM, Doral MN, Lubow-


Ozturk BY, Kelly BT. Heterotopic ossification in portal sites following hip arthroscopy. Archives of Orthopaedic and Trauma Surgery. 2013 Jul;133(7):979-84.


2013-2014 SELECTED PUBLICATIONS


DEPARTMENT OF BIOMECHANICS


Cross MB, Cicalese E, Nam D, McArthur BA, Lipman JD, Figgie MP. Results of custom-fit, noncemented, semiconstrained total elbow arthroplasty for inflammatory arthritis at an average of eighteen years of follow-up. *Journal of Shoulder and Elbow Surgery*. 2014 Sep;23(9):1388-73.


2013-2014 ORTHOPAEDIC SURGERY GRADUATING RESIDENTS

Academic Leadership
Todd J. Albert, MD
Surgeon-in-Chief
Thomas P. Sculco, MD
Surgeon-in-Chief Emeritus
Mathias P. Bostrom, MD
Vice Chair of Education and Academic Affairs
Program Director, Orthopaedic Surgery Residency Program
Edward V. Craig, MD, MPH
Associate Program Director,
Orthopaedic Surgery Residency Program
Alejandro Leali, MD
PGY-1 Faculty Mentor

2013-2014 Orthopaedic Surgery Graduating Residents
Christopher J. Dy, MD, MPH
Hand Surgery Fellowship
Washington University Orthopaedics
Peter D. Fabricant, MD, MPH
Pediatric Orthopaedics Fellowship
Children’s Hospital of Philadelphia
Curtis M. Henn, MD
Hand and Upper Extremity Fellowship
Washington University Orthopaedics
M. Michael Khair, MD
Sports Medicine Fellowship
Rush Medical Center
Lauren E. LaMont, MD
Pediatric Orthopaedics Fellowship
Texas Scottish Rite
Patrick C. Schottel, MD
Trauma Fellowship
Texas Medical Center

Peter K. Sculco, MD
Arthroplasty Fellowship
Mayo Clinic
K. Durham Weeks III, MD
Sports Medicine Fellowship
Hospital for Special Surgery

Academic Awards
Nancy Kane Bischoff Mentor Award
Russell F. Warren, MD
David M. Dines, MD
Samuel Delgado, CST, Award for Outstanding Educator and Mentor to Residents in the OR
O’Neil Smith, CST
Richard S. Laskin, MD, Young Attending Award
David S. Wellman, MD
Jean C. McDaniel Award for Professionalism, Ethics and Peer Leadership
Curtis M. Henn, MD
Thomas P. Sculco, MD, Award for Exceptional Patient/Family Communication and Compassion
Peter K. Sculco, MD
Lewis Clark Wagner, MD, Award for Excellence in Orthopaedic Clinical/Translational Research
Christopher J. Dy, MD, MPH
Racial and Socioeconomic Disparities in Surgical Delay, Readmissions, Complications and Mortality for Hip Fractures
Russell F. Warren, MD, Award for Excellence in Orthopaedic Basic/Translational Research
Peter D. Fabricant, MD, MPH
Development and Validation of a Pediatric Sports Activity Rating Scale
Philip D. Wilson, Jr., MD, Teaching Award
David M. Scher, MD
2013-2014 ORTHOPAEDIC SURGERY GRADUATING FELLOWS

Adult Reconstruction and Joint Replacement Division
Joseph B. Assini, MD
Kevin A. Cassidy, MD
Michele R. D’Apuzzo, MD
Brett P. Frykberg, MD
Joseph D. Maratt, MD
Mohamed E. Moussa, MD
Jeremy J. Reid, MD
Erik A. Schnaser, MD

Cross-Disciplinary Knee
Saker Khamaisy, MD

Foot and Ankle Service
John A. Karbassi, MD, MPH
Jeremy M. LaMothe, MD, PhD
Raymond Walls, MD, FRCS (Tr orth)

Hand and Upper Extremity Service
Erik J. Carlson, MD
Soumen Das De, MPH, FRCS
Andrew C. Ghatan, MD
Tyler G. Marks, MD

Hip Preservation Service
Danyal H. Nawabi, MD, FRCS (orth)

Limb Lengthening and Complex Reconstruction Service
Mitchell Bernstein, MD

Metabolic Bone Disease/
Musculoskeletal Oncology Service
Libi Zahava Galmer, DO

Philip D. Wilson, MD, Award for Excellence in Orthopaedic Surgery Research
Danyal H. Nawabi, MD, FRCS (orth)
Limited Retinacular Vessel Damage Does Not Compromise Femoral Head Perfusion During Hip Arthroscopy. Can the Vascular Safe Zone be Extended?

Stavros Niarchos Foundation International Fellowship
Giorgios Triantafyllopoulos, MD

Orthopaedic Trauma Service
David C. Dewar, MBBS, B(Med)Sci, FRACS
Zeynep D. Olgun, MD
Wesley H. Tran, MD

Pediatric Orthopaedic Service
Matthew A. Dow, MD

Primary Care Sports Medicine
Kenton H. Fibel, MD

Spine Service
Carlos Abdalla Castro, MD
Paul D. Kiely, MCh
John C. Quinn, MD
Joshua E. Schroeder, MD
Abdel Majid A. Sheikh Taha, MD
Haruki Ueda, MD
Joseph E. Weinstein, DO

Sports Medicine and Shoulder Service
Donald E. Fowler III, MD
Brian M. Grawe, MD
Timothy B. Griffith, MD
Moira M. McCarthy, MD
Jacqueline L. Munch, MD
Jaron P. Sullivan, MD
Samuel A. Taylor, MD
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Limb Lengthening and Complex Reconstruction Service
S. Robert Rozbruch, MD, Chief
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Orthopaedic Trauma Service
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Pediatric Orthopaedic Service
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Steven R. Goldring, MD, Chief Scientific Officer
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Ali Wilcox
Art Director

Robert Essel
Major Photography

Brad Hess
Contributing Photography

ABOUT HOSPITAL FOR SPECIAL SURGERY

Founded in 1863, Hospital for Special Surgery (HSS) is a world leader in orthopaedics, rheumatology and rehabilitation. HSS is nationally ranked No. 1 in orthopaedics and No. 3 in rheumatology (in association with NewYork-Presbyterian Hospital) by U.S. News & World Report (2014-15). It is the first hospital in New York State to receive Magnet Recognition for Excellence in Nursing Service from the American Nurses Credentialing Center three consecutive times. Located in New York City, HSS also serves patients in the regional area with outpatient centers in Connecticut, New Jersey, Long Island, and Queens, and serves Florida patients with an outpatient rehabilitation office in West Palm Beach. Patients choose to come to Hospital for Special Surgery from across the United States and from around the world. HSS has one of the lowest infection rates in the country. HSS is a member of the NewYork-Presbyterian Healthcare System and an affiliate of Weill Cornell Medical College and as such all Hospital for Special Surgery medical staff are faculty of Weill Cornell. The Hospital’s Research Division is internationally recognized as a leader in the investigation of musculoskeletal and autoimmune diseases. To learn more please visit www.hss.edu.

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