

Discovery to Recovery

CLINICAL AND RESEARCH HIGHLIGHTS AT HSS | SUMMER 2008

HOSPITAL
FOR
SPECIAL
SURGERY



Younger, More Active Patients Turn to Hospital for Special Surgery

For Baby Boomers, Surgery is No Longer a Last Resort

As more and more baby boomers turn 60, physicians throughout the country are finding that members of this generation (typically defined as those born from 1946 to 1964) are determined to stay active well into retirement. People are living longer than ever and are looking to their orthopedic surgeons to help them maintain the lifestyles to which they have grown accustomed.

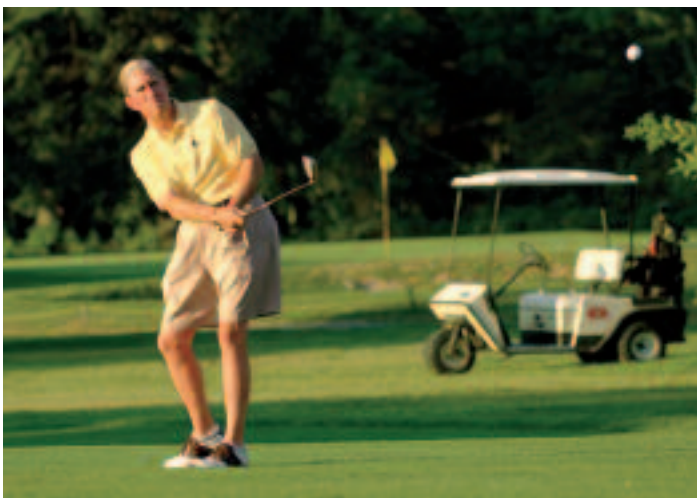
"It used to be about doing the things you needed to do – literally, being able to walk," says David Mayman, MD, Assistant Attending Orthopedic Surgeon and Clinical Co-Director of the Computer Assisted Surgery Center at HSS. "Now, patients are coming to see us saying, 'I can't do the things I want to do. I can't play golf or tennis anymore.' We're seeing more and more patients in their 50s and even some in their 40s."

In recent years, research has shown that exercise can reduce the risk of diseases such as diabetes and Alzheimer's, making it an essential aspect of daily life for people of all ages. "The baby boomer's mind-set is that there must be something that can be done," says Riley Williams III, MD, Associate Attending Orthopedic Surgeon and Director of Special Surgery's Institute for Cartilage Repair. "And thanks to improved diagnostics and surgical advancements, often there is."

"Many times people come to Hospital for Special Surgery after enduring years of pain, having been told elsewhere that they are 'too young' for a surgical procedure," says Thomas P. Sculco, Surgeon-in-Chief. "And after a patient sees how surgery can improve his or her life, we always hear the same thing: I wish I hadn't waited so long."

Increased Demand for Joint Replacements

According to research recently presented at the annual meeting of the American Academy of Orthopedic Surgeons, hip replacements in the United States are expected to double from 285,000 in 2005 to 572,000 in 2030, with knee replacements skyrocketing from 523,000 to 3.4 million – an increase of over 600% – over the same period of time. The leading reason for joint replacements is osteoarthritis, the most prevalent form of arthritis, in which cartilage breaks down, resulting in painful joints and joint movement limitations. When conservative treatment methods such as pain medication and physical therapy fail, patients with



persistent pain often consider joint replacement surgery.

Hospital for Special Surgery physicians cite a number of reasons why joint replacements are becoming more popular. Longer life expectancy, paired with an increased level of activity among people of all ages, means that people are putting more stress on their joints. The demand is also growing for another reason: joint replacements are getting better. "People do very well with joint replacements, and they last a

long time, so many people are less anxious about getting them because they're more comfortable with the longevity of the joints," says Mathias Bostrom, MD, Associate Attending Orthopedic Surgeon. While factors such as

a patient's age and level of activity can affect a joint replacement's longevity, current studies indicate that over 85% of knee replacements will function well for 20 years.

Dr. Mayman adds, "Where these people used to wait and try to hold out another year or two or five, now they just want to get it done and get on with their lives. When your lifestyle starts changing because of your hip or your knee, and there are

Continued on page 8

1st
First Again
for Orthopedics
U.S. News &
World Report

Special Surgery
Once Again
Recognized As
the Top Hospital
in the Nation for
Orthopedics
More at HSS.edu

Hospital for Special Surgery
535 East 70th Street
New York, NY 10021
www.hss.edu

Nonprofit Org.
U.S. Postage
PAID
Permit #186
Lakewood, NJ 08701

Growing by Leaps and Bounds

All around the HSS campus there are signs of growth. There's an excitement in the air because people know they are part of history in the making. As we went to press we learned that Hospital for Special Surgery was once again ranked as the number one hospital in the nation for orthopedics in *U.S. News and World Report's* "America's Best Hospitals" issue. Visit our Web site to learn more and watch for more expanded coverage of this tremendous milestone in the next *Discovery to Recovery*.

Laying the Groundwork for the Future

In the last issue I reported on our new capital campaign: *Building on Success: The Campaign for the Future of HSS*. This Campaign will support the largest clinical expansion in the Hospital's 145-year history. It will enable the expansion and renovation of the Hospital's clinical facilities, as well as the advancement of our research programs. As we've seen in the pages of *Discovery to Recovery*, our science, including population-based research and the study of best outcomes, will ultimately lead

to enhanced treatments and bring new hope to people living with musculoskeletal-related problems.

This expansion is vital to the Hospital's ability to accommodate the growing number of patients seeking the services of our exceptional physicians and staff. Because of our commitment to and delivery of extraordinary care, the Hospital is experiencing an unprecedented increase in demand. On average, our annual growth rate has been close to 10%. In the one year since the summer *Discovery to Recovery* was published, joint replacements alone have increased by over 15%. How is this happening? Patients who come here and have their mobility restored and have an outstanding patient experience are relating this to their family, friends and colleagues. Word of mouth has always been our number one source of referrals.

Our Reputation Precedes Us

What gives additional insight into our growth is what we are seeing with the Internet. Since our fall issue, we have



Louis A. Shapiro

seen a 21% increase in visits to our Web site, www.hss.edu. More than 200,000 individuals are accessing our information each month. Once on the site, they are then visiting close to one million pages – each month. Our reputation is growing, both in the U.S. and abroad, which is why we have translated portions of our Web site offerings into different languages. We are in the process of redesigning the site to make it an even more valuable resource.

As a natural outgrowth of this increased traffic on our Web site, our e-mail and phone requests are also experiencing tremendous growth. During the first six months of this year we received over 4,000 e-mail requests for appointments and 10,000 phone calls to our Physician Referral Service.

Changing Demographics

As our cover story relates, Special Surgery is now seeing a broader age range in the patients who are coming to us to help them maintain their active lifestyles. People today are living longer, and taking measures to ensure that their bodies keep up with them. They expect to maintain – or in our case – regain their mobility to the highest levels possible. As THE leader in musculoskeletal healthcare,

HSS is uniquely positioned to care for these individuals. There is no better place in the world for musculoskeletal healthcare than Hospital for Special Surgery. Thanks to our incredible multidisciplinary teams providing patient care, we are able to continue to grow, expand and do great things for those who need us both locally and from around the world.

To keep us focused on meeting our mission of providing the highest quality patient care, improving mobility, and enhancing the quality of life for all, last year the Hospital adopted a new strategic plan. This plan is serving as our own internal blueprint, guiding our efforts in the Hospital's development and serving as a communications compass for members of the HSS team.

To quote a Chinese proverb, "Not to go forward is to go back." Special Surgery is definitely moving forward. It's your continued support that makes all of these developments possible and allows us to boldly embrace and shape the future.

Sincerely,

Louis A. Shapiro
President and CEO

Caring for Our Patients

The Educational Experience of the Team Physician

As a team physician for the New York Giants for over 20 years, Russell F. Warren, MD, has treated team members for countless orthopedic injuries, including those affecting the neck, back, shoulder, knee, foot, and ankle. He and associate team physicians Bryan T. Kelly, MD, and Scott A. Rodeo, MD, work with Ronnie Barnes, the Giants Vice President of Medical Services, and a team of strength coaches, trainers, and nutritionists throughout the year, both in-season and off-season, to keep the players actively involved in a customized strength and conditioning program.

While his day-to-day role as head team physician is one of maintaining the players' health, both in the present and future, education is also at the heart of Dr. Warren's duties for the Super Bowl champions. With so much experience diagnosing and treating injuries in such an intense, accelerated environment, Dr. Warren and other team physicians throughout the NFL have been able to create and share a base of knowledge about common injuries, which has helped each doctor make educated decisions based on prior outcomes. "Our first priority is protecting the player," he says. "We have to make decisions about 'play/no play,' and we make judgment calls all the time. Those decisions are guided by our knowledge base."

A Valuable Resource

"My experience over the years is that we'll see things that nothing's been written about, so we'll conduct a study on this particular issue as it pertains to pro football players," says Dr. Warren. By publishing several papers each year based on their research, he and his colleagues are able to share their findings with orthopedists treating athletes at all levels. "It's educational for us, and it's educational for the orthopedic community at large."

In Dr. Warren's opinion, the NFL has the best databank for injuries in professional sports. "We have the luxury of going through the databank and collecting all of the information about a specific injury in the NFL in the last 20 years," he says, adding that he and other team physicians enjoy a certain level of comfort, knowing how players with a particular injury have historically responded to a certain course of treatment.

Dr. Warren has trained a large number of fellows from the HSS Sports Medicine and Shoulder Service during his tenure as team physician, and many of them have gone on to become team physicians in their own right for other NFL teams. In his early years with the Giants, Dr. Warren had to persuade the late Giants general



(Left to right): HSS physicians Brian Feely, MD, Robert Hotchkiss, MD, Russell F. Warren, MD, Scott Rodeo, MD, Bryan Kelly, MD, and Mark Muller, MD, gather after the Giants' Super Bowl victory.

manager George Young to allow fellows to study his work with the players. It was a success, and fellows have since been welcome as part of the team's medical staff. HSS orthopedic surgeon and researcher Jo A. Hannafin, MD, PhD, became the first female physician in the NFL, and another trainee, Leigh Ann Curl, MD, is currently the only female chief orthopedic surgeon in the league, for the Baltimore Ravens.

"I've seen many of the New York Giants come through here with devastating injuries which, for most people, would end even a recreational career," says Thomas P. Sculco, MD, Surgeon-in-Chief. "But Dr. Warren is able to put them back together and they return to extremely high levels of function and performance – that's an incredible thing." ●

(More online www.hss.edu/d2r)

Examining Arthritis and Tissue Degeneration

Four years ago, Senior Scientist Lionel Ivashkiv, MD, set out to assemble a team of investigators who would conduct basic, translational, and clinical research to explore the cellular and molecular mechanisms of tissue destruction in arthritis and related diseases. Today, Hospital for Special Surgery's Arthritis and Tissue Degeneration Program boasts a lab of over 40 scientists. Dr. Ivashkiv, now the Director of Basic Research and David H. Koch Chair for Arthritis and Tissue Degeneration, still participates in the Program, which is led by Carl Blobel, MD, PhD, who is considered the world leader in the field of metalloprotease-disintegrins, proteins which are important in inflammation and bone remodeling.

While other institutions conduct arthritis and tissue degeneration research, Dr. Blobel believes that Special Surgery's program is particularly well-positioned to make advances in these areas. "HSS is unique, in that the basic research



Dr. Carl Blobel (left), Director of the Arthritis and Tissue Degeneration Program, and Dr. Lionel Ivashkiv, David H. Koch Chair for Arthritis and Tissue Degeneration.

scientists and clinicians interact quite actively," says Dr. Blobel, who is the Virginia F. and William R. Salomon Chair in Musculoskeletal Research. "In fact – I'm not aware of many other institutions where the scientists have such a close connection with the physicians and surgeons."

The Program has received over \$2.5 million from individual supporters of Special Surgery; these contributions are integral to its continued growth. "Even though we are very

successful at obtaining NIH grants, they don't necessarily cover all of the work that needs to be done," says Dr. Blobel. "Biomedical research is expensive and working on experimental arthritis and tissue degeneration models usually takes months to years. The philanthropic support which we have received makes a tremendous difference – it helps speed up our research and allows us to be more productive and successful." ●

Recent Research Highlights

■ Dr. Ivashkiv published a paper in *Nature Immunology*, showing new mechanisms of tumor necrosis factor (TNF) action and suggesting new approaches to therapy of inflammatory arthritis, in which TNF is a validated therapeutic target.

■ Dr. Blobel and his colleagues recently published a paper in the *Journal of Immunology* that describes a potential new therapeutic target for rheumatoid arthritis, Crohn's disease, and septic shock.

■ Dr. Edward Purdue is establishing HSS's first Osteolysis Registry and Repository. Tracking long-term outcomes of patients with joint replacements will allow researchers to better understand, treat, and ultimately prevent periprosthetic osteolysis, a bone disease that causes joint failure.

■ Dr. Inez Rogatsky is refining the function of glucocorticoid steroids, drugs used to combat autoimmune and inflammatory diseases, in order to prevent excessive exposure that can cause harmful side-effects.

■ Dr. Wei Zhu has identified stromal derived factor-1 (SDF-1) as a key molecule in bone healing, with the goal of improving healing after fractures and spine fusion surgery.

HSS at the Olympics

Tapped by the U.S. Olympic Committee (USOC) to join its medical team, orthopedic surgeon Scott A. Rodeo, MD, and physical therapist John Cavanaugh, PT, ATC, are among a group of approximately 30 healthcare professionals who will accompany the nation's elite athletes to the Olympic games this August in Beijing. "It is an honor to be selected," says Mr. Cavanaugh, who will serve the team as an athletic trainer. Dr. Rodeo and Mr. Cavanaugh have both been assigned to swimming as their primary sport. As a team physician, Dr. Rodeo will also cover diving, water polo, and other events. Dr. Rodeo and Mr. Cavanaugh anticipate additional assignments once the swimming events are over.

The screening and selection process for the medical team requires both long-time personal involvement and dedication to sports, as well as participation as a sports medicine professional in progressively significant national and international sports events. Dr. Rodeo first served as a member of the U.S. Olympic Medical Team at the Athens Olympics in 2004. He is Associate Team Physician for the New York Giants and medical consultant for Asphalt Green – a local

swimming club in New York City. Also, like many other clinicians who serve in this role, he was a college athlete. A top-level member of the swimming team at Stanford University for two years, Dr. Rodeo says he got involved with the USA Swimming program to contribute to the sport and people who helped inspire his career. "Swimming is a great activity; there are good people in the sport, and it's a good way to give back," says Dr. Rodeo. He added, "It's a fun way to take care of the top-level athletes, and I learn by doing it."

Mr. Cavanaugh shares Dr. Rodeo's longstanding history of involvement in sports and sports medicine. A competitive soccer player while in college and after graduation, Mr. Cavanaugh has been a team physical therapist at the United States Merchant Marine Academy in Kings Point, New York, for the past 22 years. A certified athletic trainer, he was selected by the USOC to serve on the U.S. Medical Staff at the Pan-American Games last summer in Rio, Brazil. Mr. Cavanaugh has also worked extensively with the Republic of Ireland's lacrosse program since its inception in 2002.



Physical therapist John Cavanaugh and orthopedic surgeon Dr. Scott Rodeo (right) will bring their expertise to the Beijing Olympic Aquatic Center (above) when they accompany the US team to China in August.



rather than having the finals in the evening as has always been the tradition in the past," he says. "Since fractions of seconds count, every nuance of an athlete's state of health can make a difference, and we are especially attuned to addressing any sign of fatigue or strain linked to this change of routine to avoid injury and maximize performance."

Expanding on the sorts of injuries that they might encounter, Mr.

Cavanaugh says, "Among swimmers, as well as other athletes, injuries that occur at major sports events are most often related to over-use such as rib stress fractures, tendonitis, impingement syndrome in the shoulder, and some low back pain." Ideally, there

will be no injuries at the Olympics. But, given that world-class athletes are pushing their bodies to achieve more than they, or anyone else has achieved, sports medicine experts are assembled – ready to provide treatment if any physical injury occurs. ●

(More online ↗ www.hss.edu/d2r)

THE

HAPPENINGS AROUND THE HOSPITAL



Food for Thought ▲

The Healthy Snacks program, a new initiative recently launched at Special Surgery, will provide patients and their families in pediatric waiting areas with refreshments and educational materials about good nutrition. According to Shevaun Doyle, MD, Assistant Attending Orthopedic Surgeon, “By making healthy items such as apples, yogurt, granola bars, milk, and fruit juice available, we hope to ease the burden on families with young children waiting to be seen by their physician.” Emphasizing the importance of teaching children to incorporate healthy choices into their daily routine, Stephanie Perlman, MD, Assistant Attending Physician, added, “In addition to providing an amenity during the HSS visit, our goal is to reinforce healthy snack habits.” The inaugural year of the program is being funded by a gift from an anonymous donor.

A New Chapter for Pediatricians >

With more than 30 million children playing sports in the United States, sports injuries are the most common cause of visits to pediatricians – but less than six hours of training during a pediatrician’s residency is related to musculoskeletal and sports medicine. Recognizing the need for improving knowledge and clinical skills in this area, Jordan D. Metzler, MD, teamed up with the American Academy of Pediatrics to create a groundbreaking book, *Sports Medicine in the Pediatric Office: A Multimedia Case-Based Text with Video*. The book and accompanying DVD show how to examine specific sports injuries and how to differentiate between different types of injuries. The book and DVD are being used around the world and recently won first place in the



Midwest Independent Book Awards.

Contributors to the book include Robert G. Marx, MD; Ben Heyworth, MD; Drago Novkovic, ATC; Amanda Sparrow, PT; and Jame Voos, MD.



Steroids and Teenage Athletes ▲

While steroid use by professional athletes has been a hot topic in the media, many people are still unaware of the unique effects that steroids can have on young athletes who are looking to improve their performance or appearance. “Steroid use in young people whose bodies are developing is very different from mature, professional athletes,” says Edward Craig, MD, MPH, Attending Orthopedic Surgeon. “Although use in both groups is a big problem, the issues are much more significant and potentially catastrophic

for younger players.” Dr. Craig cautions that one of the most serious effects that steroids can wreak on young athletes is the premature onset of puberty, resulting in stunted bone growth. According to Dr. Craig, teenagers should be educated about steroid risks, and encouraged to participate in programs for supervised resistance training, which have been shown to increase strength in young people up to 40%.

DUALISE



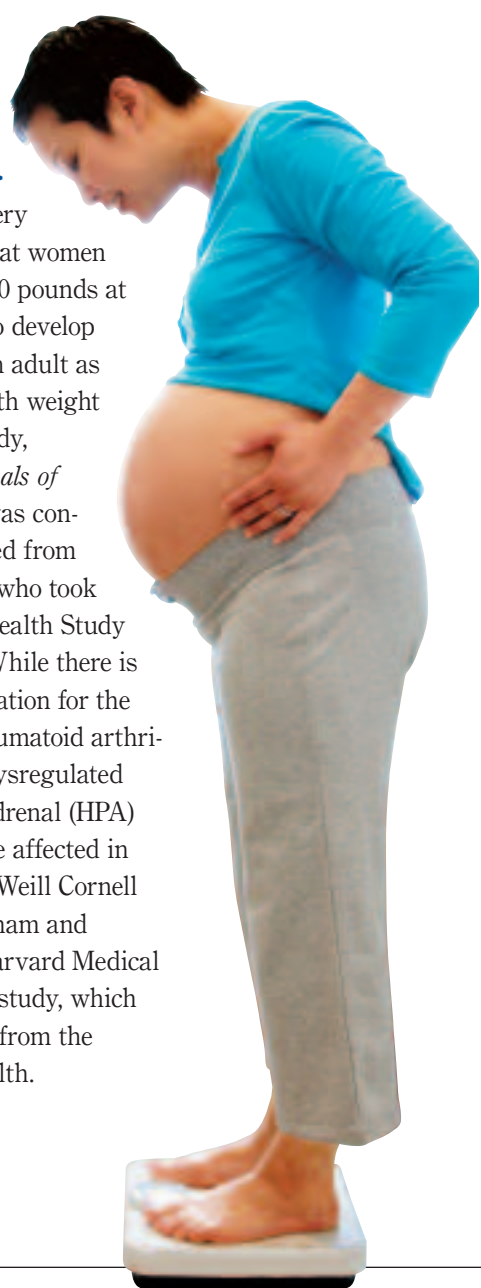
< Lucky CHArm

A recent reception at Special's Surgery's Children and Adolescent Hand and Arm (CHArm) Center recognized a generous gift from an anonymous donor and celebrated the Center's many other achievements since opening in 2006. The CHArm Center is a comprehensive resource dedicated to the treatment and research of upper extremity disorders in children and adolescents with a variety of conditions including – but not limited to – orthopedic trauma and sports injuries, rheumatologic conditions, neurological disorders, and tumors. For patients with cerebral palsy and other neurological disorders,

the Center's Cerebral Palsy and Neurological Upper Extremity Program addresses problems related to extremity posturing, hygiene, and functional limitations in the shoulder, elbow, hand, digits, and thumb. Founded by Michelle Carlson, MD, Assistant Attending Orthopedic Surgeon, the CHArm Center is also committed to increasing awareness about treatment options available to those affected by hand and arm conditions. Visit the CHArm Center online at www.hss.edu/charmcenter

Birth Weight and Rheumatoid Arthritis >

Hospital for Special Surgery researchers have found that women who weighed more than 10 pounds at birth are twice as likely to develop rheumatoid arthritis as an adult as those with an average birth weight (7 to 8.5 pounds). The study, recently published in *Annals of the Rheumatic Diseases*, was conducted using data collected from more than 87,000 women who took part in the U.S. Nurses' Health Study between 1976 and 2002. While there is no clear biological explanation for the finding, patients with rheumatoid arthritis are known to have a dysregulated hypothalamic-pituitary-adrenal (HPA) axis, and this axis may be affected in utero. Investigators from Weill Cornell Medical College, the Brigham and Women's Hospital, and Harvard Medical School contributed to the study, which was supported by grants from the National Institutes of Health.



Hitting the Bullseye ^

A team of investigators has shown that the motion used when throwing a dart occurs in a limited portion of a very complex set of joints within the wrist. This discovery allowed the team, led by Scott W. Wolfe, MD, Chief of the Hand Service, to design special rehabilitation protocols that could help critical repairs of the bones and ligaments heal after surgery. The dart-throwing motion, on which these protocols are based, is used

in a variety of sporting and occupational activities. Now, with a \$100,000 grant from the Orthopedic Research and Education Foundation, a collaborative research team directed by Dr. Wolfe and Howard J. Hillstrom, PhD, Director of the Leon Root, MD Motion Analysis Lab, will detail the entire arc of a dart-thrower's motion during sports and work activities. Co-investigators include Sherry Backus, PT, DPT, MA; Richard Cheng; Joseph J. Crisco, PhD; Andrew Kraszewski; Mark Lenhoff; Brian Pansy; Grigory Syrkin; and Aviva Wolff, CHT, OTRL.

Investigating Treatments for Thumb and Knee Osteoarthritis

Two studies now underway at Hospital for Special Surgery may lead to new and better treatments for common and often debilitating orthopedic conditions affecting the thumb and the knee. The studies are being led by Lisa A. Mandl, MD, Assistant Attending Physician, and Robert G. Marx, MD, Associate Attending Orthopedic Surgeon. The first study aims to determine whether the drug hyaluronan can help patients suffering from osteoarthritis (OA) of the thumb. The second study will investigate whether surgery is an effective treatment for meniscal tears for patients with pre-existing OA of the knee.

Basal thumb OA causes deep, painful aching and can make it quite difficult to grasp objects. “For a very small area, this causes a disproportionately large amount of discomfort,” says Dr. Mandl. “It’s a very common problem that really affects quality of life.”

Dr. Mandl says that women are twice as likely as men to develop thumb OA, which strikes more than half of all post-menopausal women.



Markers placed strategically on specific areas of the hand allow the cameras to easily capture the thumb’s motion in using the strength-dexterity test device.

In many cases, both thumbs are affected, with one often worse than the other. Milder cases of thumb OA often respond to treatments such as non-steroidal pain medications, splinting, or cortisone injections. More advanced cases may require surgery.

Over the next two years, Dr. Mandl and her fellow researchers will be conducting a randomized, double-blind study of hyaluronan, an injectable medication that is FDA-approved for the treatment of knee

OA but has not previously been used to treat thumb OA. She hopes to show that hyaluronan provides better relief than both placebo and cortisone injections.

“We previously conducted a small, open-label trial of hyaluronan, and it provided a significant improvement in pain among the 32 participants,” says Dr. Mandl. “With those results, we decided to go ahead with this much larger study.”

Patients recruited for this study will be divided randomly into three groups. One group will receive hyaluronan injections, another will receive a corticosteroid injection, and the third group will be given injections of bupivacaine, a local anesthetic. Each group will receive two injections and will then be followed for six months. Dr. Mandl and her colleagues will measure the degree to which each treatment reduces pain as well as how long the effect lasts.

“Hyaluronan can work for three to six months in the knee,” says Dr. Mandl. “We want to see how long it will be effective in the thumb.”

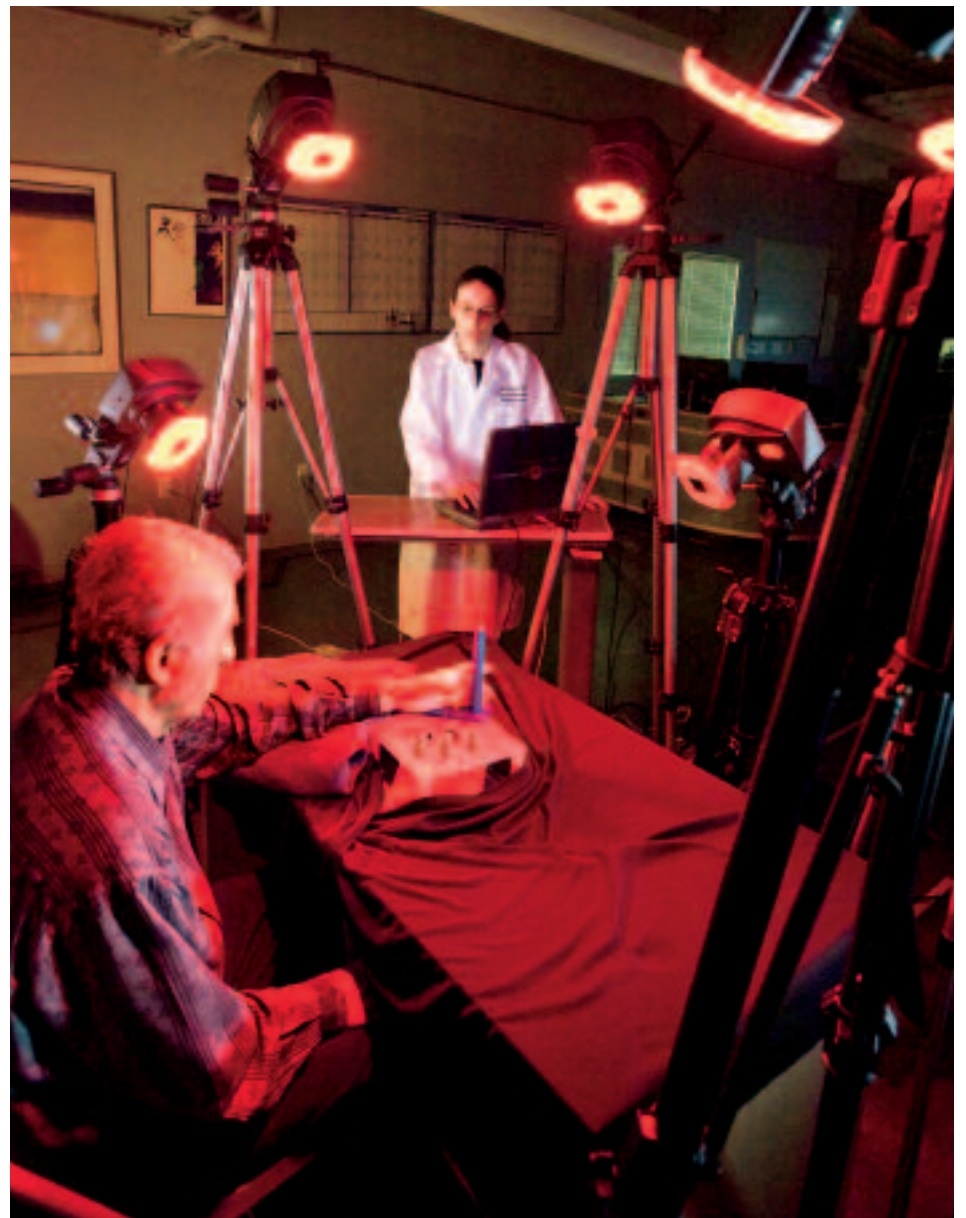
A key measure of relief is the degree to which a patient can use his or her thumb following treatment. To determine this, Dr. Mandl and her team will be using a strength dexterity test device, developed at Cornell University. Patients press down on a spring-mounted disc while a computer records their hand movements and measures the force they exert.

“How well they do will correlate with how much pain they feel,” Dr. Mandl says of the test, which will be given four times over six months. She hopes to conclude the study within two years. Her research is supported by the National Institutes of Health, the Arthritis Foundation, and the Genzyme Biosurgery, makers of Synvisc, the hyaluronan being used in this study. Those interested in participating in the study can call 212.774.2960 or visit HSS.edu/clinical-trials to learn more about eligibility criteria.

Determining When Surgery is the Solution

Dr. Mandl and Dr. Marx are also overseeing a large study investigating the treatment of meniscal tears in patients with osteoarthritis of the knee. HSS is one of five sites involved in the study, which is also being conducted at the Mayo Clinic, Harvard University, the Cleveland Clinic, and Vanderbilt University. The study is being funded by a grant from the NIH totaling more than \$3.5 million.

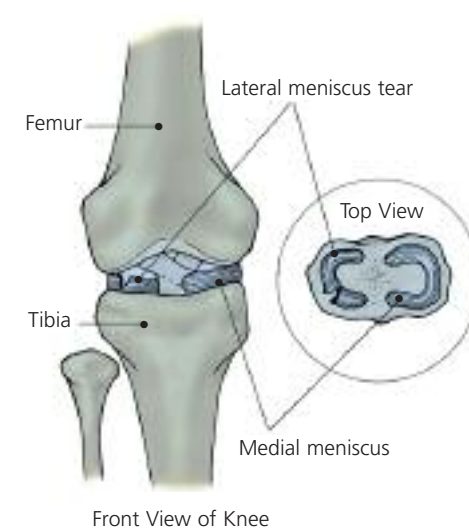
The meniscus is cushiony cartilage that helps the knee bear weight, as well as move and turn. As such, it



Dr. Lisa Mandl’s clinical study examines how patients with osteoarthritis of the thumb respond to hyaluronan injections. To measure the drug’s effectiveness, participants press down on a spring-mounted disc while a computer records their hand movements and the force exerted.

is one of the knee’s most commonly injured parts. Athletes, for example, often tear the meniscus by twisting or over-flexing the knee. But traumatic injuries are not the only cause of such tears. The meniscus weakens as we age, and that degeneration can lead to tears. An estimated one in three people over the age of 50 will suffer from a meniscal tear, and surgery to partially remove the meniscus – known as arthroscopic partial meniscectomy (APM) – is the most commonly performed orthopedic procedure.

Meniscal Tear



A clinical trial now underway at HSS will compare the effectiveness of treating meniscal tears surgically and non-surgically for patients with early to moderate knee osteoarthritis. These tears can occur as a result of traumatic injuries or degeneration over time, and will affect an estimated one in three people over the age of 50.

Illustration copyright © 2008 RelayHealth and or its affiliates. All rights reserved.

While APM surgery is often successful for patients without pre-existing knee problems, some observational studies suggest that patients with knee OA don’t fare as well. Until now, there has never been a clinical trial comparing surgical and non-surgical treatment outcomes of such patients.

“We want to determine whether surgical or non-surgical treatment is better for patients with meniscal tears who have early to moderate OA of the knee,” explains Dr. Marx, who is the Director of the Foster Center for Clinical Outcome Research at HSS and the lead surgical investigator at the HSS site of the study.

Several hundred people over the age of 45 and suffering with knee pain due to both meniscal tears and OA will be recruited for the study. Half will undergo APM surgery; the other half will receive physical therapy. The researchers will compare the short- and long-term outcomes of surgical versus non-surgical treatment by evaluating the patients six months after treatment and again at the two-year mark.

“This type of study has never been done for this population of patients,” says Dr. Marx. “Hopefully, this research will enable us to identify patient factors that will help us predict which treatment is best suited for each individual patient.” ●

Special Surgery's Best Practices Benefit British Patients

By sharing best practice methods for infection control and patient care, Hospital for Special Surgery has helped a new British hospital lower its infection rate and average length of stay. When the United Kingdom decided to create a new state-of-the-art orthopedic hospital concentrating on joint replacement surgery, they sought the expertise of Hospital for Special Surgery, the largest orthopedic hospital in the world. Special Surgery representatives were involved at every stage of planning and execution, with the goal of reducing the rate of infection and length of stay after surgery in the new facility.

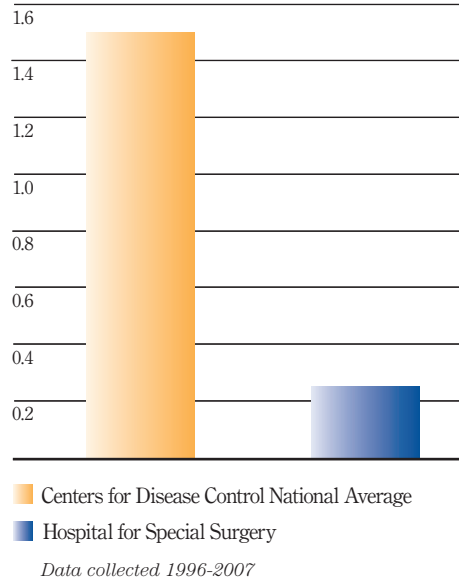
As reported in *The Journal of Arthroplasty* earlier this year, data collected during the first 10 months in operation of the South West London Elective Orthopaedic Centre in 2004 showed that the hospital had decreased their infection rates from one percent to 0.16 percent and length of stay by an average of five days, from 11 to 6 days. This decrease was benchmarked against a 2000 national survey by the Royal

College of Surgeons of England and the British Orthopaedic Association that showed for total hip replacement surgery, the average patient stay was between 8 and 12 days and that the deep wound infection rate was one percent.

With infection control a huge issue in the UK and Europe because of antibiotic resistant bacteria, the HSS representatives ensured that the hospital was designed to combat the spread of infection right from the start by going to London as the construction plans were being drawn up. "We had the opportunity to go in before the facility was even built, to help them design infection control at every level," says Eileen Finerty, RN, director of Nursing for Infection Control and Occupational Health. "We were creating a state-of-the-art facility that was focused on infection control and length of stay."

Controlling infection is one way to shorten length of stay, but Special Surgery also helped the London hos-

Total Hip Replacement Surgery
Average Infection Rate Percentages



pital staff understand its method of patient-focused care. At HSS, the staff has built a patient flow grid, with every department working together in a multidisciplinary approach to maximize patient progress. "HSS is all about patient-focused care; the entire staff is trained to help with the patient's recovery," says JeMe Cioppa-Mosca, PT, MBA, assistant vice president of the Department of Rehabilitation. A large part of patient coordination starts before the patients are admitted. At a pre-operative class, patients

are given a seminar and manual to lead them through every step, from the day before surgery through recovery. "The patients and the staff all know beforehand what the expectations are and how the clinical course should progress," continued Ms. Cioppa-Mosca. "We helped the London hospital write their pre-operative education manual and their patients have responded positively to it."

The transfer of knowledge was successful after only a few months, as evidenced by reduction in infection rates and length of stay. Since that time, their average length of stay for hip and knee replacement has continued to be one of the best performances in the United Kingdom. "This model demonstrates that best practice transfers are possible and effective," says Thomas P. Sculco, MD, Surgeon-in-Chief. "Transfers like this, of ideas and methods that work, have a profound effect on patients' lives." ●

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



Turning Research Into Patient Care

Hospital for Special Surgery is participating in a new Clinical and Translational Science Center, which brings together institutions on Manhattan's Upper East Side including New York-Presbyterian/Weill Cornell Medical Center, Memorial Sloan-Kettering Cancer Center, the Cornell University Cooperative Extension in New York, and Hunter College, along with affiliated institutions.

The Center, which is being funded by a \$49 million NIH grant, is led by Weill Cornell Medical College

and aims to advance and expedite new patient treatments and preventive interventions. Senior Scientist Peggy Crow, MD, Director of Special Surgery's Autoimmunity and Inflammation Program, is serving as one of two Coordinating Program Directors. The Center also provides funding for pilot studies to encourage multidisciplinary and cross-institutional collaboration. Three awards have been made to Special Surgery investigators for projects related to the repair of soft-tissue defects, the pathogenesis of diabetic foot ulcers, and basic disease challenges following stem cell transplantation.

"The translation of basic and clinical research findings into applications for medical care is a hallmark of Special Surgery's 'bench-to-bed-side' approach," says Steven M. Goldring, MD, Chief Scientific Officer at HSS. "This is a unique opportunity for us to partner with other world-class institutions to accelerate the process of turning research breakthroughs into quality patient care." ●



Peggy Crow, MD

HSS Scientist's Pioneering Efforts Honored at ORS Meeting

The Women's Leadership Forum of the Orthopedic Research Society (ORS) recently honored Adele Boskey, PhD, with its Women's Leadership Award. Dr. Boskey is the Director of Hospital for Special Surgery's Musculoskeletal Integrity Program and holds the Starr Chair in Mineralized Tissue Research.

"The Women's Leadership Forum seeks to encourage and inspire women at the start of their careers, so that the orthopedic research base can reflect the number of women receiving training in engineering, biology, and orthopedic surgery," says Dr. Boskey, who is one of the Forum's founders. "We do that by holding workshops that feature female leaders, by having a dinner that brings together women who are members of the ORS, and by giving an award that recognizes a woman who has provided both scientific leadership and mentoring within the ORS."

Dr. Boskey was the first female president of the ORS from 1996 until 1997 and was unanimously chosen as this year's award recipi-

ent by a nominating committee composed of one orthopedic surgeon, one biologist, and one engineer. "We all benefit from Dr. Boskey's pioneering scientific contributions as well as her activities to champion the place for women in the field," says Joan Bechtold, PhD, committee chair. "At our awards dinner, we heard many stories of her advocacy for young women who now are successful in their own right, and how important her attention and advice were at critical times in their early careers. Her generosity to others is an example to us all."

Dr. Boskey received the award during the annual ORS meeting. She was joined at the awards dinner by HSS colleagues Nancy Pleshko Camacho, PhD; Mary Goldring, PhD; Jo Hannafin, MD, PhD; Chisa Hidaka, MD; Suzanne Maher, PhD; and Cathleen Raggio, MD. ●



Adele Boskey, PhD

Recognition from Around the World

Kudos

Adele Boskey, PhD, and **John Healey, MD,** participated in the annual Research Capitol Hill Days program, sponsored by the American Academy of Orthopedic Surgeons (AAOS), which gives patients, surgeons, and investigators an opportunity to meet with members of Congress to advocate for funding for musculoskeletal research.

Peggy Crow, MD, published an editorial on lupus genetics, "Collaboration, Genetic Associations, and Lupus Erythematosus" in the *New England Journal of Medicine* online. She also chaired a meeting of the Lupus Biomarker Consortium held at the National Institutes of Health (NIH), co-chaired the NIH/National Institute of Arthritis and Musculoskeletal and Skin Diseases study section for Multidisciplinary Clinical Research Centers, and participated in the NIH study section reviewing Clinical and Translational Science Award applications. Dr. Crow also gave the featured lecture at the annual meeting of the American College of Rheumatology and was a visiting professor at the Karolinska Institute in Stockholm.

Mary Goldring, PhD, was elected to the Board of Directors of the Osteoarthritis Research Society International, and was an invited speaker at the society's World Congress held in Fort Lauderdale, Florida.

Steven Goldring, MD, was appointed Chairman of the Research Committee of the National Arthritis Foundation. He also gave the Keynote Lecture at Erlangen Rheumatology Day held in Erlangen, Germany, and

was an invited speaker at the British Bone Research Society meeting held in Aberdeen, Scotland. Dr. Goldring was also an invited discussion facilitator at the NIH Center for Scientific Review Open House Workshop and was invited to speak at the Advanced Imaging and Computer Assisted Surgery of the Knee and Hip Research Symposium in May. He was also a co-organizer of a research meeting on diagnosis and treatment of osteoporosis held in Washington, DC.

Chisa Hidaka, MD, was invited to join the editorial board of *The Open Orthopaedics Journal*.

Lionel Ivashkiv, MD, along with **Lu Wang, PhD, Ioannis Tassioulas, MD, Kyung-Hyun Park-Min, MD,** and colleagues at Weill Cornell Medical College and Yale University School of Medicine recently described in *Nature Immunology* a new therapeutic approach for attacking lupus. The authors identified a way to block the deleterious effects of the anti-viral protein interferon while maintaining its anti-viral properties. Such an approach would allow the disease to be controlled with few side effects.

Michael Lockshin, MD, was a member of the International Organizing Committee for the European Workshop for Rheumatology Research, where he was also a speaker. He was also an invited speaker at the Turkish Rheumatology Association.

C. Ronald MacKenzie, MD, was re-appointed to the American College of Rheumatology's Ethics and Conflict of Interest Committee and joined the Board of The HealthCare Chaplaincy of New York.

Stephen A. Paget, MD, has been elected as the Rheumatology Member of the Board of Trustees of the

American Board of Internal Medicine. He is also a member of the Rheumatology Subspecialty Board of the American Board of Internal Medicine. Dr. Paget was also elected as a Board of Trustees Member of the American College of Rheumatology's Research and Education Foundation and will chair its Development Advisory Council.

Luminita Pricop, MD, served as a reviewer for the NIH Arthritis, Connective Tissue and Skin (ACTS) Study Section.

Cathleen Raggio, MD, was named chair of the Orthopedic Research Society (ORS) Media Relations Committee and as such will serve on the ORS Board of Directors.

Sergei Rudchenko, PhD, served as a reviewer on the NIH/National Cancer Institute Small Grants Program, Special Emphasis Panel.

Jane Salmon, MD, received the Theodore E. Woodward Award from the American Clinical and Climatological Association, awarded to the most meritorious presentation at the annual meeting of the association. Dr. Salmon was also appointed a member of the Immunity and Inflammation Steering Committee of the Biomarkers Consortium for the Foundation for the NIH.

Carla Scanzello, MD, PhD, gave a presentation at the Osteoarthritis Research Society International World Congress in Fort Lauderdale, Florida.

Marjana Tomic, PhD, served as an ad hoc reviewer for the NIH Small Research Grant Study Section and for the ACTS study section. She was also elected to the editorial board of the *Journal of Biological Chemistry* for 2009-2014.

Peter Torzilli, PhD, served on the NIH/National Institute of Biomedical Imaging and Bioengineering Study Section on Enabling Technology in Hilton Head Island, South Carolina.

Russell Warren, MD, delivered the Kennedy Lecture at the annual meeting of the American Orthopaedic Society for Sports Medicine in San Francisco, California.

Andrew Weiland, MD, received the Emanuel Kaplan Award for a paper written with several other authors entitled, "The Radial Nerve in the Brachium." This award, recognizing the best anatomic paper, will be presented at the 2008 American Society for Surgery of the Hand meeting in Chicago. Dr. Weiland was also elected president of the International Bone and Research Association, and was invited as the Presidential Guest Speaker at the New England Orthopaedic Society annual meeting.

Timothy Wright, PhD, served as co-chair of the NIH/AAOS Research Symposium on Implant Wear and Osteolysis held in Austin, Texas. He also served on internal review committees for pilot and K12 awards for the new NIH Clinical Translational Science Center that HSS will participate in (see page 7).

Karla Wyatt, a PhD graduate student in the laboratory of **Peter Torzilli, PhD,** received the Best Paper Award in the Master's Level Student Paper Competition in Cellular and Molecular Biomechanics at the 2007 Summer Bioengineering Conference held in Keystone, Colorado. Ms. Wyatt's paper was co-authored by Dr. Torzilli and **Jonathon Bourne,** another PhD graduate student working in the lab. ●

Continued from page 1

things you enjoy doing that you can no longer do, that's the time to start thinking about the surgery."

Innovative Approaches

Many patients are also less anxious about undergoing surgical procedures because of new, minimally-invasive techniques that can alleviate pain and do not require extended recovery time. One such procedure is partial knee resurfacing, a bone preserving procedure that leaves patients with two-thirds of their natural knee surface, allowing individuals to return quickly to enjoying recreational activities. "The partial knee resurfacing surgery, ideal for younger, active people, allows for a short recovery time, good mobility post-surgery and a quick return to everyday activities such as work, driving and walking," says Andrew D. Pearle, MD, Assistant Attending Orthopedic Surgeon and

Clinical Co-Director of the Computer Assisted Surgery Center at HSS. According to Dr. Pearle, this procedure may decrease the chances of needing total knee replacement surgery in the future. "People who are in their 50s, are active, and have isolated pain in part of the knee could consider partial knee resurfacing as an alternative to waiting until the knee 'gets bad enough' for a total knee replacement," says Dr. Pearle. Friedrich Boettner, MD, Assistant Attending Orthopedic Surgeon, cites a number of factors that have contributed to the increasing popularity of this procedure. "Improvements in surgical technique, implant design, quality of the materials, and patient selection have resulted in better outcomes for this procedure, especially for high volume surgeons and hospitals," he says.

Rotator cuff surgeries have also become a more attractive option than they were years ago, thanks to minimally-invasive procedures pioneered by HSS physicians over the last 20 years. "As a result of advances in arthroscopic suturing techniques, we've become more aggressive in treating rotator cuff tears," says John D. MacGillivray, MD, Assistant Attending Orthopedic Surgeon. "Most patients will still initially undergo a trial of physical therapy to see if surgery can be avoided, but for those who do not respond, we recognize the value of initiating surgery sooner rather than later," he says, adding that delaying surgery may exacerbate the problem.

"There are still patients who say, 'OK, I'll give up golf or tennis rather than have the surgery,'" says David Altchek, MD, Attending Orthopedic Surgeon and Co-Chief of the Sports

Medicine and Shoulder Service. "But we are in a generational shift where more and more patients are simply not willing to give up their level of activity." ●

Editor-in-Chief: Rachel Jager

Executive Editor: Sara Kosowsky

Contributing Editors: Michael Elvin, Phyllis Fisher, Tracy Hickenbottom, Edward C. Jones, MD, MA, Matt McMillen

Design: Arnold Saks Associates

Major Photography: Jim Barber, Robert Essel, Bud Glick, Mark Tuschman

Printing: Monroe Litho

Discovery to Recovery is published twice a year by the Development Department, Hospital for Special Surgery, 535 East 70th Street, New York, NY 10021. 212.606.1196

Hospital for Special Surgery is an affiliate of New York-Presbyterian Healthcare System and Weill Cornell Medical College.

©2008 Hospital for Special Surgery. All rights reserved.

➤ *More Online*

Visit us at www.hss.edu/d2r for more information about stories in this issue.

Our Physicians

KEEPING ATHLETES IN THE GAME



Struan H. Coleman, MD, PhD, is an Assistant Attending Orthopedic Surgeon specializing in sports medicine. As the head team physician for the New York Mets, Dr. Coleman regularly treats orthopedic conditions of the shoulder, hip, and knee in

professional athletes, as well as in amateur athletes like Jim Carrier (see other side). For all of his patients, Dr. Coleman emphasizes the importance of staying in shape, adding that motivation and discipline are critical factors in the rehabilitation process. "Keeping a regular exercise

routine is essential and something I stress with all of my patients," says Dr. Coleman. "A patient should recover from a surgical procedure more easily if they have maintained a good level of fitness."

Our Patients

OVERCOMING THE OBSTACLES

Jim Carrier was doing a set of push-ups at a Navy SEAL base when a searing pain ripped through his shoulder. Having been made an honorary SEAL for his commitment to caring for veterans, Navy SEALs, and their families, Mr. Carrier was used to pushing himself to the limit.

But this time, he couldn't work through the pain. He sought relief at Special Surgery, under the care of Struan H. Coleman, MD, PhD (see other side). An MRI revealed two problems: a tear of the labrum surrounding the socket of the shoulder and impingement of the rotator cuff by a bone spur. Dr. Coleman performed a single surgery to

address both issues and Mr. Carrier began rehabilitation immediately after the procedure. Fondly referring to Special Surgery as "the Special Forces of orthopedic surgery," Mr. Carrier was back on the physical training circuit at the Navy SEAL base just eight months later.

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