



Photo: John Kelly

INSTITUTE INSIGHT

Productivity, Efficiency, and Support Highlight 2012 for SPRI

By Stan Pappelbaum, M.D., M.B.A., Interim Chief Executive Officer, Steadman Philippon Research Institute

We will look back at the year 2012 as one of significant change, enormous productivity, increased efficiency, and exciting promise for the Steadman Philippon Research Institute. None of these achievements would have happened without the generous support of individuals like you and our corporate sponsors.

INCREASED PRODUCTIVITY

The newly named department of BioMedical Engineering and the Center for Outcomes-Based Orthopaedic Research, as well as the Center for Translational and Regenerative Medicine Research and department of Imaging Research, have initiated and completed a record number of research studies. These studies have produced scholarly articles published in peer-reviewed journals, presentations made at national and international conferences, and recognition for the physicians and scientists at SPRI at unparalleled rates.

In 2012, BioMedical Engineering alone produced 11 high-impact publications, another 10 papers have been accepted for future publication, and 13 papers are in the review process.

The Center for Outcomes-Based Orthopaedic Research converted to a new digitized method of collecting data that has dramatically reduced costs, produced better quality data, and made that information avail-

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able to our researchers at a faster pace than ever before. The SPRI database now includes more than 3,000 knee surgeries, more than 2,000 shoulder procedures, and almost 1,000 foot and ankle surgeries—and the database continues to grow.

INTERNATIONAL RECOGNITION

Our physicians and scientists continue to be recognized by some of the most prestigious professional organizations in the world. Dr. J. Richard Steadman, already one of this nation's most honored

A Good Idea

It's a good idea for everyone reading this article to have a will. Through years of your hard work, you have accumulated a lifetime of assets, and a properly drawn will allows the distribution of those assets to reflect your wishes. To help you accomplish exactly that, here are some good ideas!

1. Have a Will

It sounds simple, but without a will you may as well give all you've worked for to the state to give away for you. If you die without a will, the state must follow very specific rules for distributing your assets, and it may not be what or who you had in mind.

2. Reflect What You Value Today

The emphasis is on today. Suppose you wrote a will ten years ago, and since that time you

or someone dear to you has battled the life-constraining effects of an orthopaedic disorder. Thanks to leading-edge research and treatment, that person may have returned to an active, high-quality life. What a good idea to review your will and include a bequest to the Steadman Philippon Research Institute to continue the advancement of life-changing care, education, and scientific investigation.

3. It's 10:00 PM. Do You Know Where Your Will Is?

Quick, where is the original of your will? Who else knows where it is? How fast can it be located? If your will can't be found, it's as if you never had one. Wherever you keep your will, make certain those most likely to be contacted in the event of death are fully informed and can locate your will.

Estate Tax Changes on the Horizon for 2013?

Under current law, the estate tax exemption is scheduled to drop significantly from \$5,120,000 in 2012 to \$1,000,000 in 2013, and the estate tax rate is scheduled to increase from 35 to 55 percent. On January 1, 2013, the exemption and rate are scheduled to return to levels that were in effect in 2001/2002: a \$1,000,000 estate tax exemption and 55 percent estate tax rate.

There was an effort to avoid this increase by the House, which on August 1, 2012, passed the Job Protection and Recession Prevention Act (JPRPA). The Act included a one year extension of the 2012 estate tax rules; however, Congress adjourned shortly thereafter and the session calendar through the end of the year presents a challenging schedule to address this issue, leaving the future of the federal estate tax in 2013 and beyond in question.

orthopaedic surgeons, was presented the Richard O'Connor Research Award for his research paper on 10-year survivorship following knee arthroscopy in patients with osteoarthritis. Dr. Steadman's co-authors were Karen Briggs, Lauren Matheny, and Dr. Henry Ellis.

PLANS

Earlier this year, SPRI engaged the services of The Greenwood Company, a professional fundraising management group, for the purpose of helping the Institute increase its productivity as a

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4. Call Us to Let Us Know

We would like to thank you personally for your generosity in including the Institute in your plans. We would also like to welcome you into our Founders Society—a cherished group of friends and supporters who, through their bequests, support our work and a future of healthy and active lifestyles.

There are other ways to remember the Institute in your plans. You can simply name the Institute as a beneficiary of your retirement accounts or as beneficiary/owner of a life insurance policy you no longer need. If we can answer any questions, please contact John McMurtry, Vice President, Program Advancement, at mcmurtry@sprivail.org or (970)-479-9797.

**Institute Research Leads the World
Richard O'Connor Award**

Dr. J. Richard Steadman, founder and chairman of the Board for the Steadman Philippon Research Institute, was in 2012 honored with the Richard O'Connor Research Award. Dr. Steadman, internationally known for his work as an orthopaedic knee surgeon, received the award for the research paper titled "Ten Year Survivorship Following Knee Arthroscopy in Patients with Moderate to Severe Osteoarthritis of the Knee." Dr Steadman developed this arthroscopic treatment package for patients who have osteoarthritis but are not ready to change their activity level or proceed to total knee replacement.



Jonathan B. Ticker, M.D., chair of the Research Committee for the Arthroscopy Association of North America, presents the Richard O'Connor Research Award to Dr. Richard Steadman.

This paper showed that a large number of patients could delay total knee replacement for 10 years. His co-authors on the award-winning paper are Karen Briggs, Lauren Matheny, and Dr. Henry Ellis. Dr. Steadman's presentation and many others were highlighted at the Arthroscopy Association of North America's 31st Annual Meeting in Orlando, Florida, May 17-18.



**Robert F. LaPrade, M.D., Ph.D.
Awarded "Orthopaedic Nobel Prize"**

The American Academy of Orthopaedic Surgeons and the Orthopaedic Research and Education Foundation announced in November that Robert F. LaPrade M.D., Ph.D. has been awarded the highly competitive and prestigious 2013 OREF Clinical Research Award for his submitted paper on "Improving Outcomes for Posterolateral Knee Injuries." Dr. LaPrade will be presenting his



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Robert F. LaPrade, M.D., Ph.D

Historical and Future Federal Estate Tax Exemptions and Rates

YEAR	ESTATE TAX EXEMPTION	TOP ESTATE TAX RATE
2000	\$675,000	55%
2001	\$675,000	55%
2002	\$1,000,000	50%
2003	\$1,000,000	49%
2004	\$1,500,000	48%
2005	\$1,500,000	47%
2006	\$2,000,000	46%
2007	\$2,000,000	45%
2008	\$2,000,000	45%
2009	\$3,500,000	45%
2010	\$0	0%
2011	\$5,000,000	35%
2012	\$5,120,000	35%
2013	\$1,000,000	55%

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revenue source. As a result of the study, the Greenwood group made recommendations involving, among other things, the name and structure of the Institute, governance and oversight of SPRI's fund development program, a SPRI fellows alumni association, increased philanthropic support, a 36-month fundraising campaign, and communications with donors. The recommendations are now being processed by the leadership of SPRI and will be incorporated into our institutional planning program.

SPRI is already moving forward with the goal of establishing a department of Orthopaedic Rehabilitation Research, which will be the first of its kind in the world. We are in the process of finding and recruiting an internationally known director, and our hope is to make a formal announcement regarding the new department early in 2013.

SPECIAL EVENTS

Finally, on behalf of the staff at SPRI, I want to thank you for supporting SPRI's three special events this summer. The events—Darius Rucker's "Rock the Research" concert, the dinner/gala that followed the concert and honored Earl Graves (Pg 4), and the Golf Classic brought in donations of more than \$1 million. The events produced the highest amount ever generated for our combined summer fundraising activities. The money will go directly into ongoing and new orthopaedic injury prevention, and treatment research.

The Darius Rucker concert, presented by Vail Valley Pharmacy and the Yates and Nisonoff Families, took place July 5 at the Gerald R. Ford Amphitheater in Vail. A sold-out audience of 2,700 people attended the event, and the 450 attendees who purchased VIP tickets enjoyed pre-concert hors d'oeuvres and a sit-down dinner in the Betty Ford Garden immediately following the concert.

The SPRI Golf Classic presented by RE/MAX, LLC, was held August 16 at Sanctuary, one of the world's most beautiful courses. One hundred golfers participated in the event, and SPRI is

grateful to Dave and Gail Liniger, owners and co-founders of RE/MAX, LLC, and to the Vail Valley Medical Center, a title sponsor for the third consecutive year.

Let me reiterate something I mentioned at the beginning of this column. The Steadman Philippon Research Institute is productive, efficient, and good at what it does because of you. World-class physicians and scientists, cutting-edge facilities, and life-changing research wouldn't be possible without your support. We know that, and we want you to know how much we appreciate everything you do for SPRI.



Earl Graves, Sr., Presented With Lifetime Achievement Award by the Steadman Philippon Research Institute

By Jim Brown, Executive Editor, SPRI News

On July 5, 2012, the Steadman Philippon Research Institute and its Board of Directors presented the first ever Lifetime Achievement Award to Earl Graves, Sr. His youngest son, Michael, accepted the award on behalf of Earl and his recently deceased wife, Barbara.

Earl is one of the nation's most successful and distinguished business leaders. He serves on the Institute's Board and has raised hundreds of thousands of dollars for the Institute during his 15-year tenure. The Board also named Earl a Lifetime Trustee of the Institute.

Speaking for SPRI and the Board, Dr. Richard Steadman and Dr. Marc Philippon said, "We at the Steadman Philippon Research Institute are proud to recognize Earl Graves as the first recipient of the Steadman Philippon Research Institute's Lifetime Achievement Award. We are honored to have this association. He has been an active member, and we hold him in the highest esteem."

Earl is chairman and chief executive officer of Earl G. Graves, Ltd, the parent



Earl G. Graves, Sr.

corporation for the Earl G. Graves Publishing Company. His company publishes *BLACK ENTERPRISE*, a business-service magazine targeted to black professionals, executives, entrepreneurs, and policy makers in the public and private sector. *BLACK ENTERPRISE* has a circulation of over 425,000 and a readership of more than 3.8 million.

FROM BROOKLYN TO MORGAN STATE TO THE GREEN BERETS AND BEYOND

Born in Brooklyn, Earl was a ROTC graduate with a degree in economics from Morgan State University. He attended Airborne and Ranger School and finished his Army service with the rank of captain as a member of the 19th Special Forces Group—the Green Berets.

Earl began his career as an administrative assistant to the late Senator Robert F. Kennedy from 1965 to 1968. After Senator Kennedy's assassination, Earl formed his own management consulting firm to advise corporations on urban affairs and economic development.

He served as chairman and CEO of Pepsi-Cola of Washington, the largest minority-controlled Pepsi-Cola franchise in the United States, and he continues to

serve as chairman of Pepsi's Customer Advisory and Ethnic Marketing Committee.

THE GRAVES-STEADMAN CONNECTION

"I had a series of knee injuries over a long period of time," says Earl, who had been going to Colorado with his family to ski for many years. "Someone mentioned to me that there was an orthopaedic group in Vail called the Steadman Clinic and a doctor named Richard Steadman. I looked him up, got an evaluation and later, treatment, and the rest is history."

Earl's son, Earl Graves, Jr., says about his father, "Our father has always been the kind of person who wanted to 'give back' and work in the not-for-profit business sector. He loved Dr. Steadman, liked what the Institute was doing and how it helped people, and he loved skiing. It was a perfect storm."

Earl Graves, Sr., was a close friend of the late Secretary of Housing and Urban Development Jack Kemp, who encouraged him to get involved with SPRI and its Board of Directors. Secretary Kemp served on the SPRI Board of Directors until his death in 2009.

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Photo: Barry Eckhaus

Michael Graves, center, accepts the Lifetime Achievement Award and honorary "lab coat" on behalf of his father from Drs. Steadman and Philippon.

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In addition to his contributions to SPRI, Earl served as a director of Aetna Life and Casualty Company, The Schomburg Center for Research in Black Culture, AMR Corporation (American Airlines), DaimlerChrysler AG Corporation, Federated Department Stores, Inc., and Rohm & Haas Corporation. He also serves as a volunteer on boards of TransAfrica Forum and the American Museum of Natural History and Planetarium.

LIFE-CHANGING EXPERIENCE

“Being treated by Dr. Steadman was a life-changing event for me because it helped to heal a lifetime problem, just as it has for people in all walks of life,” says Earl. “There is something to be said for a person who is at the top of the medical profession for all the right reasons.”

“The Clinic and the Research Institute have been on the cutting edge of medical science,” he continues. “When I had my first knee surgery decades ago (long before I met Dr. Steadman), surgeons had to open up the entire knee with very invasive surgery. Because of the work they’ve done here, surgical procedures are now much less invasive and the recovery time is much quicker. The fact that people from all over the world come here for treatment is a testimony to the research that has been conducted at SPRI.”

Speaking of the SPRI Fellows, Earl says, “It’s clear that it is an honor to be selected to come and work at the Steadman Clinic and the Steadman Philippon Research Institute. SPRI has world-renowned facilities and physicians who train these young doctors to care for and help people. The success that SPRI has had should not be a surprise. It attracts the best and brightest medical minds.”

HIGHER EDUCATION, EQUAL OPPORTUNITY

Earl is a staunch advocate of higher education and equal opportunity. In recognition of his support of entrepreneurial education, Morgan State University renamed its School of Business

and Management to the Earl G. Graves School of Business and Management.

Earl is a member of the National Black College Hall of Fame and has lectured at Yale University. He has been awarded honorary degrees from 51 universities, including his alma mater.

Earl currently resides in Westchester County, New York. He and his late wife, Barbara, have three married sons, Earl, Johnny, and Michael, and eight grandchildren.



Kenneth and Anne Griffin Foundation Grants \$200,000 to Support Visiting Scholar Program for Clinical Sports Medicine MRI

The Steadman Philippon Research Institute is pleased to announce a \$200,000 grant award from the Ken and Anne Griffin Foundation to support the Griffin Visiting Scholar Program for Clinical Sports Medicine MRI.

Mr. Griffin, a former Steadman Clinic patient and long-time supporter of SPRI’s research efforts, is the founder and chief executive officer of Citadel LLC, a franchise that includes both Citadel Asset Management and Citadel Securities. Citadel is one of the most successful financial institutions in the world.

Mr. Griffin is a graduate of Harvard and an active supporter of educational, civic, cultural, and evidence-based medicine initiatives. He serves on the board of trustees for both the Art Institute of Chicago and the Museum of Contemporary Art, as well as the board of directors of the Chicago Public Educational Fund. Within the business community, he is a member of numerous organizations, including the World Economic Forum, G100, and the Economic Club of Chicago.

“Ken Griffin has always been a supporter of the Institute, and he has taken a special interest in imaging research,” says Charles Ho, M.D., Ph.D., director of



Kenneth G. Griffin

Imaging Research at SPRI. "He has followed the progress of Imaging Research and its collaboration with Siemens Medical Solutions USA as the department expanded in areas of imaging biomarkers, mapping, and the clinical imaging database. When the Institute's Imaging Research Fellowship sponsorship by Siemens was scheduled to expire, Ken took up the challenge and committed to sponsoring the Visiting Scholar Program for the next two years."

The process of identifying and recruiting the first Griffin Visiting Scholar has already begun, and the physician who is selected for the position will be-

gin his or her work in 2013. That person will read and review clinical patient MRI exams, assist in developing and validating sports medicine MRI protocols and scoring systems, and collect imaging data to be incorporated into SPRI's existing clinical and operative database.

"In addition to evaluating and analyzing the imaging database and correlating it with the clinical database and outcomes, the Visiting Scholar will also write and submit articles to be considered for publication in peer-reviewed journals," adds Dr. Ho. "The Visiting Scholar will have the unique opportunity of correlating the results of imaging, clinical exams, arthroscopy and operative results, and outcomes. Following patients from day one to final outcomes is an experience that would be difficult get anywhere else."

"On behalf of the Steadman Philippon Research Institute and the department of Imaging Research," concludes Dr. Ho, "I want to express our appreciation to the Kenneth and Anne Griffin Foundation for making this Visiting Scholar Program possible. Their philanthropic generosity will greatly enhance our research and education mission, and this award will undoubtedly help us advance evidence-based medicine and science."



Photo: John Kelly

PATIENTS IN THE NEWS

Brandt Snedeker: From Hip Surgery to the Top of Professional Golf in Less Than a Year

By Jim Brown, Executive Editor, SPRI News

How many career changing events can you have in one year? Four and counting, if you are professional golf star Brandt Snedeker. Brandt had hip surgery at the Steadman Clinic in November of 2011; won a PGA tournament 90 days later at Torrey Pines; was named to the U.S. Ryder Cup team early in September; and won the Tour Championship and the FedExCup on September 23 in Atlanta.

Other than that, the past year or so has been business as usual for Brandt, who joined the PGA after graduating from Vanderbilt and playing two years on the Nationwide Tour. In 2007, he was named PGA Rookie of the Year.

SURGERY

Actually, there have been two surgeries, one on the left hip in 2010 and a similar procedure on the right hip last November. "In 2010, my left hip started to hurt during the U.S. Open," recalls Brandt. "I thought it might have been just a fluke thing and tried to get through the rest of the season, but it really never got better. I had a sharp stabbing pain when I walked, and it was very sore at night and early every morning."

"I had heard about Dr. Marc Philippon from other golfers and knew that he had treated Greg Norman for a hip problem. Every golfer I talked with had nothing but good things to say about their experience with Dr. Philippon and his colleagues at the Steadman Clinic and the Steadman Philippon Research Institute."

"I sat down with Dr. Philippon on a Monday, and after looking at MRI results, he told me that he could get me back to 100 percent in eight weeks—playing tournaments in 12 weeks. He was completely confident that it was an

Brandt Snedeker

141st Open Championship, July 20, 2012, at Royal Lytham & St Annes golf course, Lancashire, England. Round 2 - Brandt Snedeker shoots 64 to tie the lowest round at the course and -10 under par total after 36 holes.

© AP Images
Photo: Stuart Robinson, AP Images



issue that could be resolved, and he was right. I had the operation two days later and was playing golf right on schedule.”

The hip disorders causing Brandt’s pain were, among other things, a torn labrum and a condition called femoroacetabular impingement (FAI). FAI is a common cause of hip pain and osteoarthritis that involves too much friction in the hip joint during extreme range of motion movements.

“As my left hip got better,” says Brandt, “I noticed a growing problem in my right hip. It wasn’t as bad as the left hip, but it was causing pain, and nothing I tried could calm it down. I knew I had the same bone problem as in my right hip and that it wasn’t going to get any better, so I went back to Vail for pretty much the same procedure done in 2010.”

A WIN AT TORREY PINES

The second surgery was on November 1, 2011. After three weeks of physical therapy in Vail with therapists at Howard Head Sports Medicine, Brandt returned to Nashville and continued rehabbing with his physical therapists there.

“Having the surgery was the best health-related decision I’ve ever made,” he says. “Just the knowledge Dr. Philippon has about what he does and working with the physical therapists 4-6 hours a day was a huge bonus in getting me back to 100 percent.”

By mid-January, Brandt was back on the course and ready for the PGA tour again. In only his second tournament after surgery, the Farmers Insurance Open at Torrey Pines, he came from seven shots back in the final round and defeated Kyle Stanley in a playoff. It was Brandt’s third PGA title, but not his last.

RYDER CUP

On September 4, 2012, the Ryder Cup team was announced, and Brandt was one of four wildcard selections made by team captain Davis Love III.

“He called and asked me if I wanted to represent the United States on the Ryder Cup team,” says Brandt. “I couldn’t say ‘yes’ fast enough. It’s a huge thing for my career.”

Brandt was also one of four Ryder Cup rookies named to the team. Love wanted “hot” putters on the team and Brandt has been one of the best putters on the tour. The Ryder Cup was played in late September at Medinah Country Club near Chicago, a club that has hosted two PGA Championships since 1999.

TOUR CHAMPIONSHIP AND FEDEXCUP

Brandt already had the year of a lifetime when the Tour Championship tournament began. In addition to the Farmers Insurance Open, he recorded six top ten finishes and more than \$3.5 million in season earnings.

By winning the Tour Championship, he added \$1.44 million in prize money, plus a \$10 million bonus from FedEx for accumulating the most points during the season.

“This is what you work your whole life for; all those balls you hit,” Brandt told the press after the tournament.

LOOKING BACK, LOOKING FORWARD

What would Brandt tell someone with a hip problem similar to his? “I’ve heard too many horror stories of what happened to people who didn’t take this kind of condition seriously. It can affect you for the rest of your life. It’s worth the effort to get the best medical advice, and there is no question that Dr. Philippon and the people at Steadman Philippon are the best at what they do.”

For those who might consider supporting SPRI, Brandt says, “Every dollar you donate will go toward helping people recover from orthopaedic conditions and injuries. And everything they are doing at SPRI is on the forefront of helping people return to good health as fast as possible. They did it twice for me.”



RESEARCH UPDATE

Ten Year Survivorship Following Knee Arthroscopy in Patients with Moderate to Severe Osteoarthritis of the Knee

Arthritis continues to be the leading cause of disability in the U.S., and the prevalence is rising in most nations. In the face of severe osteoarthritis of the knee, total knee replacement has historically been shown to be a reasonable and effective surgical treatment.

The procedure is not without long-term drawbacks, however. In particular, the inability to participate in high impact sports such as jogging, climbing, soccer, and tennis have made it a less desirable option for a younger patient who wishes to remain active. It was recently reported that the U.S. spent \$9 billion on knee replacement in 2008. The number of knee replacements in adults ages 45 to 65 has tripled during the last 10 years in the U.S.

Not only are we unsure how long the knee replacement will last in a 45-year-old patient, these increasing numbers may be reducing the activity level of a significant number of people, and decreased physical activity complicates many other diseases such as diabetes and heart disease.

In this study, we wanted to see if total knee replacement could be delayed with arthroscopic treatment of the knee. In the past, knee arthroscopy was reserved for patients without high-grade osteoarthritis. However, new studies examining results of the procedure in older patient populations, as well as in patients with established osteoarthritic joints, have shown moderate success over the short term. Data regarding long-term results of arthroscopic surgery on patients with severe osteoarthritis are limited, however. The purpose of this study was to see how long patients who received arthroscopic treatment delayed total knee replacement.

From August 2000 to November 2001, 865 knee arthroscopies were performed by Dr. Steadman. Among those procedures, 81 knees (73 patients) were identified that had severe symptomatic arthritis prior to the procedure and were included in the study for analysis. Patients were included in the study if they had failed non-operative (conservative) management for their arthritis, which included modification of daily activities, physical therapy, anti-inflammatory medications, and weight loss or joint lubricating injections. All patients in the study were considered appropriate candidates for total knee replacement by common standards, but were referred to our institution for arthroscopic consideration in order to retain an active lifestyle. The average age of the patients was only 57 years.

The arthroscopic treatment “package” focuses on pain generators. These include stiffness, synovitis, meniscus tears, and closed space due to scarring. In the degenerative knee, volume in the knee is especially important to allow



Photo: John Kelly

for painless movement. The “package” addresses each area if needed. First, the joint is filled with saline to inflate the capsule around the joint. This may break up small scar tissue, but it also gives the doctor an indication of how much volume the knee has before surgery. All unstable tissue that may cause catching is removed. Synovitis is removed to decrease pain, and all spaces are opened to restore the normal volume and normal biomechanics of the knee. Bone spurs are also removed if they are limiting the motion of the knee.

A strict postoperative rehabilitation program is vital to the success of the procedure. The goal of this rehabilitation is to prevent scar formation within the joint, as well as to maintain appropriate joint fluid volume, which prevents further friction between the bones of the knee joint.

The secondary goal of rehabilitation is to regain strength in the leg. We use a three-phase rehabilitation program on these patients. The first phase focuses on re-establishing range of motion, stretching, and overall joint mobility. Patients limit weight bearing on the limb for one to two weeks after surgery. Continuous range of motion exercises are used during the first week immediately after surgery. Greater mobility of the knee gives the knee the best chance to be as good as it can be.

Patella mobility exercises are critical to this program. If the correct environment is created with the knee, then strength usually returns. In the first six weeks, the patient works to achieve muscle activity without joint strain. Excessive strengthening may increase stiffness by placing strain on the work done inside the knee.

After six weeks, patients began to work on strength training by means of walking uphill on a treadmill and increased intensity on the bike. The elliptical can be used if no pain is felt. The physical therapist emphasized closed chain exercises. At four months, weight training exercises and a return to full activity was allowed.

At 10 years postoperatively, patients were contacted to determine if they had undergone total knee replacement. If they had not, they were sent a questionnaire that documented symptoms and overall satisfaction with the knee.

Of the 81 knees originally operated on, several were deceased or did not want to participate. Of the 69 knees remaining, 43 received total knee replacement at an average of 4.4 years after original knee arthroscopy. Patients who required total knee replacement were older (60 years old) compared to those who did not require it (53 years old). Overall, survival rates of the original arthroscopic procedure were 60 percent at five years, 47 percent at seven years, and 40 percent at 10 years. Survivorship was defined as not having a total knee replacement procedure performed. Twenty-six patients did not require total knee replacement by 10 years, and reported a mean satisfaction of eight on a scale of 1 to 10.

This study demonstrated that the arthroscopic surgical technique devised by Dr. Steadman was able to delay the need for total knee replacement on average by five to 10 years. This allowed for patients to continue the more active lifestyle that had prompted them to seek out treatment at our institution in the first place. We believe that following a strict and comprehensive rehabilitation program postoperatively was critical to the overall success of the procedure.

In summary, we found that approximately 40 percent of patients who were originally candidates for total knee replacement were able to delay the procedure for 10 years. Arthroscopic surgery is not a cure for knee arthritis, but in the right patient who wishes to remain active, we believe it is a viable option in order to delay the need for a total joint replacement. This study shows that there is no reason not to do arthroscopy in the degenerative knee. This study won the prestigious Richard O’Connor award by the Arthroscopy Association of North America for 2012.



SPORT.DR Data Collection Software is Game-Changer for SPRI's Center for Outcomes-Based Orthopaedic Research

By Jim Brown, Executive Editor, SPRI News

Over the past months, the Center for Outcomes-Based Orthopaedic Research at SPRI has quietly converted from a paper and scanning-based method of collecting data to one that uses paperless, tablet technology and software. The new software is called SPORT.DR, which stands for Steadman Philippon Outcomes Research Data Registry. It was implemented with the help of Littleton, Colorado-based Clinical Trial Site Solutions (CTSS).

The results, according to the Center's director, Karen Briggs, have been quick and dramatic. "The new software has been a game-changer for those of us in Orthopaedic Research. Our data capture costs have been reduced by more than 97 percent, our quality is better, and we have information available much quicker."

The old system required patients, physicians, and SPRI's research scientists to fill out paper forms, having a person process the forms using a scanner, and utilizing another person to independently verify that data for mistakes or omissions—all before actual research was begun.

INSTANTANEOUS DATA CAPTURE

The SPORT.DR software allows SPRI doctors to complete a form on a computer tablet device after a clinical examination of a patient," explains Briggs. "Our software sends a PDF to the patient as a backup to their medical record. We get all of the data instantaneously."

On the patient side of the process, a person can fill out a form online before ever arriving at SPRI or they can use an iPad in the waiting room once they've arrived. Either way, time is saved. "One person coordinates all data questions," adds Briggs. "Instead of scanning forms all day, our interns can do research all day, and we can start research on a patient the minute he or she is done."

One of the features of SPRI's massive database is that records have been kept on some patients for as long as 20 years. "We've been keeping in touch with them by regular U.S. mail, sending follow-up questionnaires at least once a year. Now we can do it by email and not send out a thousand pieces of mail a month."

TIME AND MONEY SAVED

"The whole process represents a major saving in terms of time and money," says Briggs. "We don't have paper forms anymore, we don't have to pay for mailing, and we don't have to manually verify data. The forms double-check themselves. Patients have to respond in certain ways. If they don't, the program prompts them to correctly enter data. When the data collection is complete, it immediately goes into the database and into what we call our Patient Report Card."

The SPRI staff compared the cost of the old system to the SPORT.DR system and found a 97.33 percent reduction in



Photo: John Kelly

Left to Right Front Row: Lauren Matheny, Karen K. Briggs, M.B.A., and Marilee Horan, M.P.H. Left to Right Back: Ashley Darrough, MacKenzie Herzog, and Doug Gillard

cost—\$3.75 per patient encounter record then; \$0.10 per patient record now.

Briggs says that all of the existing data in SPRI's database has been merged into the new system. "Implementation of the new system is about 98 percent complete, but it seems like we think of a new feature to add every day."

In terms of productivity, the results of SPORT.DR have been impressive. "We've already submitted five times more abstracts for publication or presentation at professional meetings than we ever have before during a similar time period, and it's because the SPORT.DR software gives us more time to do research."



SPORTS AND WELLNESS

Dr. Peter Millett Offers Tips For Maintaining Healthy Joints

Keeping Up With The Game of Life: Everyday Tips For Maintaining Healthy Joints

Sports and everyday activities put tremendous stress on joints. Dr. Peter J. Millett, SPRI Board member and orthopaedic shoulder specialist, offers this informative article on useful tips to maintain healthy joints to keep them safe and active for life.

Throughout childhood, everyone experiences the occasional skinning of a knee or bruise from a fall. These common injuries heal quickly and cause little concern for worry. While the ailments from life's little stumbles can be nursed back to health, there are bigger, hidden concerns that start early and sometimes never return to normal. Joint health is something you can't see with the naked eye, making it a big reason why millions of Americans take it for granted.

Though everyday activities put a great amount of mechanical stress on our joints, Dr. Millett, offers these tips for maintaining healthy joints:



Illustration: Marty Bee

EXERCISE FOR FUN, TRAIN FOR HEALTH

More than 3.5 million kids receive medical treatment for sports injuries annually. While sports offer a fun way to exercise, they can sometimes be taken too far. The mindset that the more you train the more you gain, unfortunately, leads to overuse and overtraining, which can cause irreversible damage. It's important to train smart in order to avoid injury. This includes consistent and adequate rest between training periods, implementing an effective stretching protocol, and taking time off from sports when aches and pains arise.

MANAGE A HEALTHY BODY WEIGHT

Maintaining a healthy body weight is crucial to long-term joint health. The knees and ankles tend to bear the biggest brunt of the body's weight, so every extra pound that is packed on means that your precious joints are having to work extra hard to carry the load. Obesity is a risk factor for many health-related conditions, and it has been noted that it speeds up the process of cartilage breakdown. Maintaining a healthy weight by eating right and staying active will help ensure joint health for years to come.

MAINTAIN A BALANCE BETWEEN MOTION AND REST

While staying active is necessary to maintain a healthy body, there has to be a balance between motion and rest.

(continued on page 14)

(continued from page 13)

Engaging in repetitive motions or the same activity day after day can put great strain on the body. This overuse can wear down cartilage and loosen tendons leading to injury. The key is to pay attention to your body. When you feel pain or discomfort during or after certain activities such as household chores or exercise, it's important to take a break and consider eliminating the activity for a period of time.

STRENGTHEN AND STRETCH TO STABILIZE

When your body is properly aligned, your muscles and joints work together in harmony to stabilize and take the burden off of one specific body part. Just like when a car is out of alignment, the body can get out of alignment too. Building muscles through strength training exercises and maintaining a strong, healthy core will help stabilize, support, and guide the muscles. A proper stretching regimen is equally important to help enhance circulation and improve range of motion.

JOINT PRESERVATION IN LIEU OF JOINT REPLACEMENT

Regardless of your activity level, everyone will endure some natural wear and tear of the joints. For some who experience chronic joint pain, joint replacement surgery is an option. However, it is usually only recommended for older adults, or for those who have tried other alternatives. Joint preservation to delay joint replacement surgery offers individuals the chance to restore their joints through the use of highly advanced techniques and procedures. While cartilage cannot be repaired, it can be preserved to avoid the future onset of rapid degeneration.

Dr. Peter J. Millett is an orthopaedic surgeon and member of the Board of Directors of SPRI and the SPRI Scientific Advisory Committee. For more tips for maintaining healthy joints, visit www.drmillett.com.



EDUCATION

Welcome 2012-2013 Fellows

NINE NEW PHYSICIANS INTRODUCED

This year, nine young orthopaedic surgeons were selected from a field of more than 160 to participate in 12 months of vigorous training in the Steadman Philippon Sports Medicine Fellowship Program. Our goal is to prepare them to be leaders in the field of orthopaedic sports medicine for the remainder of their careers. Many go on to hold high-level faculty positions at top medical schools.

In 2010, we added two Fellows to our program when we welcomed the Institute's first Foot and Ankle Fellow and the world's first Sports Medicine Imaging Research Fellow. In addition, we now have three Visiting Scholars, who are in essence research fellows from overseas. All 11 (Fellows and Visiting Scholars) are being given a unique opportunity to perform research in their respective areas of interest, including biomechanics research, clinical research, imaging research, and basic science research.

Once every 18 months after that, they will return with other past Fellows for further education and to exchange the additional knowledge they have gained since completion of Fellowship training. The Institute currently maintains a network of more than 183 Fellows in communities around the world who serve in academic positions at leading universities and in private practices.

2012-2013 STEADMAN PHILIPPON SPORTS MEDICINE FELLOWS

Tyler C. Collins, M.D.

Dr. Collins grew up in Colorado, where he learned to ski at the age of three. After high school, he attended the University of Virginia, where he played varsity baseball and was Academic All-

ACC. He graduated with high honors from the School of Engineering and Applied Science with a Bachelor of Science in systems engineering. From Virginia, he switched coasts and attended medical school at the University of Southern California, where he was a Deans Scholar. He remained at USC for his residency training and spent the majority of his time treating the underserved population in Los Angeles. His research interests include fixation of proximal humerus fractures, needle arthroscopy of the knee, reliability and reproducibility of shoulder fracture classification systems, and objective shoulder strength after fixation of clavicle fractures.

After traveling throughout the country, Dr. Collins is thrilled to be back in Colorado and feels extremely fortunate to train at the Steadman Clinic.

Christopher Espinoza-Ervin, M.D.

Dr. Espinoza-Ervin graduated from the University of Oklahoma with a Bachelor of Science degree in microbiology. He completed his medical degree at the University of Colorado School of Medicine. While in medical school he was awarded a National Institutes of Health grant to fund research focused on the treatment of orthopaedic trauma.

During the completion of his orthopaedic surgery residency at the University of Texas Southwestern, he assisted with team coverage of high school, collegiate, and professional sports. His research focused on the treatment of lower extremity trauma, shoulder arthroscopy, and the pediatric knee. He was selected as a chief resident and honored with the Vert Mooney Award for Academic Achievement.

Scott C. Faucett, M.D., M.S.

Born and raised in Santa Monica, California, Dr. Faucett matriculated at Middlebury College in Vermont, where he studied economics and chemistry. As an undergraduate, he also refined his skills as a telemark skier and began to volunteer with the town's rescue squad. By his fourth year, he was appointed to



the board of directors and attained the rank of captain, specializing in technical and water rescue.

After graduation, he attended Dartmouth Medical School, earning a Master of Science degree in health care policy and leadership as he pursued his growing interest in orthopaedic surgery and sports medicine. Dr. Faucett chose to remain at Dartmouth Hitchcock Medical Center for the opportunity to focus on health policy and his other research interests: clinical epidemiology and cost effectiveness decision analysis. Throughout his residency, he provided physician coverage for the Dartmouth Varsity athletes.

Edmund "Edton" A. Ganal, M.D.

Dr. Ganal graduated magna cum laude with Revelle Provost honors from University of California, San Diego, with a degree in biochemistry and cell biology. He was a member of Phi Beta Kappa and played NCAA soccer. He volunteered on a medical mission to the Philippines before attending Tufts University School of Medicine on a Health Professional Scholarship.

Dr. Ganal completed general surgery internship, then served as a battalion surgeon with the Marines. He deployed to Iraq in support of

Front row: Peter Millet, M.D., M.Sc., Edmund Ganal, M.D., Marc Philippon, M.D., Robert LaPrade, M.D., Ph.D. 2nd Row: Christopher Espinoza-Ervin, M.D., Scott Faucett, M.D., Jared Lee, M.D., J. Richard Steadman, M.D. 3rd Row: Tyler Collins, M.D., Jack Skendzel, M.D., Nicholas Viens, M.D., Tom Hackett, M.D. Back Row: Jeffrey Nepple, M.D., Randy Viola, M.D., Tom Clanton, M.D.

Thank You

A special thank you to our sponsors who make the Fellowship program possible. We'd like to recognize those individuals and foundations that support the entire Fellowship class through the sponsorship of Academic Chairs.

Chair sponsors of the 2012-2013 Steadman Philippon Fellowship Class are **Mr. and Mrs. Lawrence Flinn, Mr. and Mrs. Brian P. Simmons, Mr. and Mrs. Peter Kellogg, Mr. and Mrs. Al Perkins, and Mr. and Mrs. Steven Read.**

Fellowship Benefactors fund the research of one Fellow for one year. Each Benefactor is assigned a Fellow, who provides written reports and updates of his or her work. We extend our gratitude to the following individuals and foundations for their generous support: **Mr. and Mrs. Milledge Hart, the Fred and Elli Iselin Foundation, Mr. Tim McAdam, Mr. and Mrs. Jay Precourt, and Mr. and Mrs. Stewart Turley.**

Operation Iraqi Freedom. After completing orthopaedic residency at Naval Medical Center San Diego, he was stationed at Newport, Rhode Island, where he deployed to Afghanistan for Operation Enduring Freedom and took care of combat casualties.

Jared T. Lee, M.D.

Dr. Lee attended Brigham Young University as a student-athlete. He graduated magna cum laude with a Bachelor of Art in history and was a member of Phi Kappa Phi. As an undergraduate, Dr. Lee played football at Ricks Junior College. He was team captain, All-American, and inducted into the Ricks College Athletic Hall of Fame. Recruited to Brigham Young University, he was named team captain, all-conference safety, and first team academic All-American, and received the prestigious National Football Foundation and College Football Hall of Fame post-graduate scholarship. Prior to medical school he signed as a free agent with the Cincinnati Bengals and later worked for Forest Laboratories.

He received his medical degree from the University of Washington School of Medicine, where he was elected a member of Alpha Omega Alpha and graduated with honors. Dr. Lee completed residency training in the Harvard Combined Orthopaedic Residency Program and served as administrative chief resident for the Massachusetts General Hospital. He was recognized for the highest average score on the orthopaedic in-training examination among the graduating residents. His research interests include the biomechanics and traumatic injuries of the sternoclavicular joint, a topic on which he has made numerous presentations.

Jeffrey J. Nepple, M.D.

Dr. Nepple grew up in Templeton, Iowa. He graduated summa cum laude from Truman State University in Kirksville, Missouri with a degree in mathematics. While at Truman, he played NCAA Division II basketball and was

elected team co-captain his senior year. He then attended Washington University School of Medicine in St. Louis and was awarded the Brookings and Carter Research Award during his final year. Dr. Nepple completed his residency training at Washington University in St. Louis.

During his time in St. Louis, he was involved in team coverage of the St. Louis Rams football and Blues hockey. He also spent two weeks in Port-au-Prince, Haiti, as part of a medical mission group treating orthopaedic conditions after the earthquake. While at Washington University, his research focused on young adult hip disease and femoroacetabular impingement. He also received the AOSSM NCAA Research Award in 2011 for research on knee articular cartilage disease in football players at the NFL Combine. His research resulted in numerous publications and presentations. After completing his training, Dr. Nepple will return to Washington University in St. Louis.

Jack Skendzel, M.D.

Dr. Skendzel graduated magna cum laude from the University of Notre Dame. While at Notre Dame, he spent six months in London studying and traveling throughout Europe. After college, he attended medical school at Georgetown University in Washington, D.C. Dr. Skendzel then returned to his native Michigan and completed his orthopaedic surgery residency at the University of Michigan. During his residency, he completed several research projects and published in journals such as the *Journal of Arthroplasty*, *the American Journal of Sports Medicine*, and *Arthroscopy*. He also served as an administrative chief resident for the orthopaedic program and covered local high school football teams, as well as collegiate basketball and hockey.

FOOT AND ANKLE FELLOW

Nicholas A. Viens, M.D.

Dr. Viens graduated magna cum laude from Duke University, where he earned a Bachelor of Arts degree in his-

tory, as well as membership in Phi Beta Kappa. He was awarded highest distinction in his major and the William T. Laprade Prize for the outstanding thesis in the Department of History. Dr. Viens attended the Duke University School of Medicine and furthered his interests in clinical orthopaedics and research. He completed orthopaedic surgery residency at Duke University Medical Center and was very involved with the resident selection and education processes. He was an American Orthopaedic Foot and Ankle Society Resident Scholar, an American Orthopaedic Association Resident Leadership Forum Nominee, and a John A. Feagin, Jr., M.D., Leadership Program Medical Scholar.

Dr. Viens has co-authored publications in the *Journal of Bone and Joint Surgery*, *Clinical Orthopaedics and Related Research*, *Foot and Ankle International*, the *Journal of Arthroplasty*, and the *Journal of Surgical Orthopaedic Advances*. His clinical and research interests include foot and ankle athletic and traumatic injuries, as well as treatment of arthritic conditions of the foot and ankle, including total ankle replacement.

Having grown up in Waterville, Maine, where he earned his Eagle Scout and was active in sports and camping, Dr. Viens is looking forward to spending a year in the mountains and enjoying the snow with his wife, Lindsey, and son, Henry.

SPORTS MEDICINE IMAGING FELLOW

W. Sean Smith, M.D.

Dr. Smith is a graduate of Xavier University and the University of Cincinnati College of Medicine, where he attended on a U.S. Navy Health Professions Scholarship. His internship was at the University of Chicago Hospitals and Clinics, which was followed by three years active duty in the medical clinic at Willow Grove Naval Air Station in Willow Grove, Pennsylvania. He completed his radiology residency at the National Naval Medical Center in Bethesda, Maryland, and then spent three more years on active duty as the head of the Department of Radiol-

ogy at the US Naval Hospital, Camp Lester, in Okinawa, Japan. Upon returning to the United States, he completed a combined Musculoskeletal Fellowship at the Armed Forces Institute of Pathology and the University of Maryland.

The next two years were spent in Augusta, Georgia, where he is an assistant professor of Radiology, and at the VA Medical Center, where he was head of the Department of Radiology. In 1997, he entered private practice with Charleston Radiologists in Charleston, South Carolina. While there, he worked closely with the local orthopaedic surgeons, especially those who served the area's high school, college, and professional sports teams.



Where Are They Now. . ?

The graduating class of 2011-2012 Steadman Philippon Fellows is busy establishing new careers in orthopaedics.

Adam Anz, M.D.

Dr. Anz is practicing at the Andrews Orthopaedic and Sports Medicine Center in Gulf Breeze, Florida.

Christian Balldin, M.D.

Dr. Balldin is practicing with the San Antonio Orthopaedic Group in San Antonio, Texas.

Robert Boykin, M.D.

Dr. Boykin is establishing his practice at Blue Ridge Bone and Joint in Knoxville, Tennessee.

Mark Geyer, M.D.

Dr. Geyer has joined the practice at the Athletic Orthopedics and Knee Center in Houston, Texas.

Jeffrey Padalecki, M.D.

Dr. Padalecki has moved to Austin, Texas, and is practicing at the Austin Regional Clinic.

Benjamin Petre, M.D.

Dr. Petre is now in Queen Ann, Maryland, practicing sports medicine at the Orthopaedic and Sports Medicine Center.

Norman Waldrop, M.D.

Dr. Waldrop is establishing his sports medicine practice at the Andrews Orthopaedic and Sports Medicine Center in Birmingham, Alabama.

(Steadman Philippon Update, continued from page 3)

winning paper at the Annual Meetings of the Orthopaedic Research Society and the American Academy of Orthopaedic Surgeons in 2013. "I am very humbled to have been chosen to receive this award. I am also very grateful to my family for their support and to my many colleagues who have been an essential part of my research over the past 15 years. This award solidly validates our research strategy of defining the anatomy, developing improved means of diagnosing a problem, redefining the clinically relevant biomechanics, developing improved radiographic diagnostic measures, developing biomechanically validated ligament reconstructions, and then validating these reconstructions in patient outcomes studies. In addition to the posterolateral knee for which this award was based, we have similar ongoing programs for the medial knee and MCL, anterior cruciate ligament, and posterior cruciate ligament," said Dr. LaPrade. Dr. LaPrade's collaborators on this paper included Lars Engebretsen, M.D., Ph.D. (University of Oslo, Norway), Steinar Johansen, M.D. (University of Oslo), Chad Griffith, M.D. (University of Minnesota), Benjamin Coobs, M.D. (University of Minnesota) and Andrew Geeslin, M.D. (Western Michigan University).

OREF CLINICAL RESEARCH AWARD

In 1994, the Board of Trustees of the Orthopaedic Research and Education Foundation (OREF) created the OREF Clinical Research Award to stimulate and recognize outstanding orthopaedic clinical research. This award is considered the highest research award for orthopaedic surgeons and has been called the "Orthopaedic Nobel Prize." The Award is chosen by the Research Development Committee of the American Academy of Orthopaedic Surgeons from manuscripts which represent a large body of cohesive and highly significant scientific work, reflecting years of investigation in orthopaedic surgery. Previous winners of this award read like a "Who's Who" of high impact orthopaedic clinicians and researchers for whom clinical studies have resulted in numerous scientific breakthroughs and for which significant numbers of patients have benefitted from their research work. This award represents researchers who have made most of the leading orthopaedic advancements of the past 60 years.



The Orthopaedic Foundation for Active Lifestyles Honors Dr. Steadman

The Orthopaedic Foundation for Active Lifestyles recently honored Dr. Richard Steadman, M.D., with the Excellence in Sports Medicine award at their eighth annual gala. The presentation of the award, which took place November 13 at The Harvard Club of New York City, was made by television icon Regis Philbin. Also honored was tennis legend, Billie Jean King, who received the Spirit of Active Lifestyle award.



Coen Wijdicks, Ph.D., Named "Outstanding Reviewer of the Year" by European Society of Sports Traumatology Knee Surgery and Arthroscopy (ESSKA)

Coen Wijdicks, Ph.D., director of the department of BioMedical Engineering and senior staff scientist with the Steadman Philippon Research Institute in Vail, was recently named "Outstanding Reviewer of the Year" for 2012 by the European Society of Sports Traumatology Knee Surgery and Arthroscopy (ESSKA).

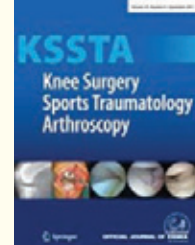
The announcement was made in the journal, *Knee Surgery, Sports Traumatology, Arthroscopy (KSSTA)* - The Official Journal of ESSKA.

Dr. Wijdicks has been an instrumental contributor towards many diverse research studies affiliated with the Institute. His research focus is on translational research for current clinical needs, with an emphasis on a bench-to bedside focus. Some of his studies include novel methods to stimulate tissue regeneration via biologic growth factors to promote healing; radiographic quantification related to common injuries of the knee and shoulder; and the development of new ligament reconstructions with biomechanical validation to optimize surgical reconstructions of common ligament injuries.

He has published over 50 peer-reviewed scientific articles in high-level journals, presented over



Coen Wijdicks, Ph.D.



100 abstracts at national and international meetings, and received over 10 awards for his and colleagues' overall excellence in research. Most notably, in June of 2010 Dr. Wijdicks was awarded the prestigious Nicola's Foundation Young Researcher Award, which is given to the best scientific manuscript in the field of knee surgery at the bi-annual ESSKA congress.

The Institute extends its congratulations to Dr. Wijdicks for his extraordinary efforts.



Steadman Philippon Research Institute Reports Record Year in Publication of Peer-Reviewed Orthopaedic Research Studies

In the field of healthcare, peer review and publication of clinical and scientific studies certify that the absolute highest standards in the research process have been met. BioMedical Engineering scientists from the Steadman Philippon Research Institute will have 33 studies completed by year-end. These orthopaedic research studies include injury prevention, clinical observation, and assessment in all areas of orthopaedic sports medicine.

The department of BioMedical Engineering at SPRI, a world leader in orthopaedic and sports medicine research, reports a record number of research papers by PubMed. PubMed's database is a service of the U.S. National Library of Medicine, and provides access to peer-reviewed and accepted online collections of research studies for the medical community. For 2012, the department of BioMedical Engineering will have 16 orthopaedic studies published, another seven papers accepted for publication, and 10 papers still in peer review.

Independent, unbiased, critical assessment of medical conditions, treatments, and patient outcomes is integral to validating clinical research. SPRI's orthopaedic research studies include injury prevention, clinical observation, and assessment in all areas of orthopaedic sports medicine. In the field of healthcare, these studies certify that the absolute highest standards in conducting, recording, and reporting the research have been met. Once an orthopaedic research study is submitted to a professional journal by a research team, a peer review committee scrutinizes it, and only the best papers are accepted for publication.

The large number of SPRI studies published in a 12-month period is an extraordinary accomplishment and the highest indicator of the quality of their research.

It is not only about the quantity, but also the quality of publications within SPRI that allow for high impact in our orthopaedic community. Our publications are accepted to the top journals.

Dr. Marc Philippon, orthopaedic hip surgeon and SPRI Board Member, stated, "It is not only about the quantity, but also the quality of publications within SPRI that allow for high impact in our orthopaedic community. Our publications are accepted to the top journals."

According to Dr. Coen Wijdicks, director of the department of BioMedical Engineering at SPRI, "Peer-reviewed publications that incorporate relevant research studies provide a significant credible resource among peers. Because it is published in such a large forum, the result is high impact and captures a large audience."

The Steadman Philippon Research Institute is engaged in various orthopaedic research studies throughout the year. In 2012, some of the published studies included:

- The effects of arm elevation on the 3-dimensional acromioclavicular distance: a biplane fluoroscopy study with normative data
- Anatomic suture anchor versus the brostrom technique for anterior talofibular ligament repair
- Femoroacetabular impingement treated with PRP and bone marrow concentrate aspirate in a professional soccer player

(continued on page 20)



Robert F. LaPrade, M.D., Ph.D., Coen A. Wijdicks, Ph.D., Kyle Jansson, Mary Goldsmith, M.Sc., and J. Erik Giphart, Ph.D.

Photo: John Kelly

(Steadman Philippon Update, continued from page 19)

- Recruitment and activity of the pectineus and piriformis muscles during hip rehabilitation exercises: an electromyography study
- The management of injuries to the medial side of the knee.

“Without a peer review process for medical research, there would be very little validity to published studies. It is well recognized that peer-reviewed publications have gone through vigorous peer review and represent the highest levels of scholarly work. It has always been our goal, and it will continue to be our goal, to plan to publish our orthopaedic research studies in the highest level journals starting from the point of initial design of our works,” states Dr. Robert LaPrade, chief medical research officer of the Institute.”

In 2011, SPRI completed construction of its multi-million dollar, state-of-the-art laboratories and surgical skills facilities. The principal goal for these facilities is to understand the demands on joints for certain sports or motions, how injuries occur and how they can be best treated, and to offer physicians, SPRI Fellows, and International Research Scholars the ability to practice current and new surgical techniques in a simulated operating room environment.



Dr. Thomas O. Clanton Receives Research Grant for the Evaluation of Serious Turf Toe Injuries

The Orthopaedic Education Foundation of the American Orthopaedic Foot and Ankle Society recently awarded Dr. Thomas O. Clanton, orthopaedic surgeon and director of Foot and Ankle Sports Medicine for the Steadman Clinic in Vail, Colorado, a research grant concerning turf toe injuries. This research initiative, which was conducted at the Steadman Philippon Research Institute, provides a detailed evaluation of turf toe injuries using a method of analysis that utilizes stress radiographs.

Turf toe injuries occur when the big toe is hyperextended or moved to a position that is beyond its normal range of motion, leading to a sprain to the ligaments and soft tissue that surround the big toe joint. It is an injury commonly seen in high-level athletes such as gymnasts, football players, and soccer players. Historically, there has been dispute on the best course of treatment to repair turf toe injuries because there is not a specific standardized approach.

This new study proposes a quantitative grading system based on dorsiflexion stress radiographs. This will result in a predictable and reproducible test for evaluating the extent of injury to the first MTP joint.

The study was performed in the department of BioMedical Engineering (BME) at SPRI, and the results were submitted for publication this month.



Dr. Marc Philippon Publishes Study on the Arthroscopic Treatment for Femoroacetabular Impingement in Adolescents

Peer-reviewed publications are considered the gold standard among medical professionals. They offer critical information about how to best to treat patients with certain medical problems. PubMed represents independent, critical assessment of medical conditions, treatments, and patient outcomes. These studies are an important part to validate one’s research, and researchers must include details about the scientific progress used, as well as insight into the investigation and outcomes.

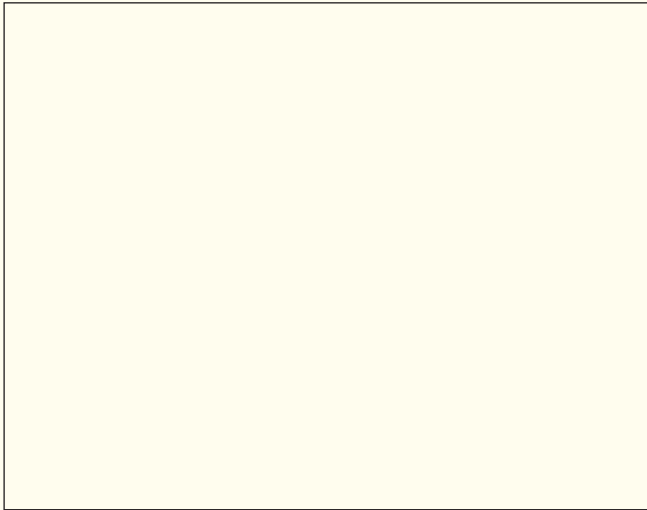
SPRI Board Member Dr. Marc Philippon is an expert in treating femoroacetabular hip impingement. His study on treating the condition arthroscopically in adolescents (patients ranging in age from 11 to 16 years) was recently accepted and published on PubMed.

The purpose of this particular study was to evaluate clinical outcomes after arthroscopic treatment for femoroacetabular impingement in the adoles-



Dr. Marc Philippon

Photo: John Kelly



Mechanical causes of FAI as seen on an axial view of the hip joint.

The reduced clearance leads to repetitive abutment between the femur and the acetabular rim. Top Left: Normal hip. Top Right: Reduced femoral head-neck offset (cam impingement). Bottom Left: Excessive over coverage of the femoral head (pincer impingement). Bottom Right: Combination of cam and pincer types of impingement.

cent and pediatric population with a minimum of two years follow-up. The mean age for the study (at the time of surgery) was 15 years. Sixty-nine percent of the patients were girls and 31 percent were boys.

The conclusions indicate that hip arthroscopy in the pediatric and adolescent population is a safe procedure, with excellent clinical outcomes at two to five years. In this study, there was an association between alpha angle and age. Clinical scores showed a significant improvement after surgery; however, 13 percent of patients did require a second procedure for capsulolabral adhesions.



Lynda Sampson Named Director of Special Events and Major Gifts

Lynda Sampson has been named director of Special Events and Major Gifts at the Steadman Philippon Research Institute. Among her duties at SPRI, Lynda will work with donors and prospective donors, directing them to projects and programs that match their interests.

Lynda grew up in Vail and graduated from Colorado State University at Fort Collins with a degree in speech communications. From there she traveled the world with the performing group "Up With People" for two years. First performing as a student and cast member, she then was hired as part of the production/dance team.

Lynda then moved to Phoenix, Arizona, where she worked in programming and operations for KUTP TV45. After three and a half years in the desert, Lynda realized that Colorado was home and relocated back to her hometown of Vail.



Lynda Sampson

After returning, Lynda joined the TV8 team in February 1991, during the station's first year of operation. Her first job was as co-host and Beaver Creek Resort reporter. In the fall of 1993, Lynda went on to work as the executive producer and host of "Good Morning Vail," where she stayed for 15 years.

Lynda served as Regional Development Officer for Colorado Mountain College and helped generate support for the Edwards campus, programs, and students. Lynda recently developed "Women in Philanthropy," a member-based program with the goal of increasing awareness and support for Colorado Mountain College.

Prior to assuming her full-time duties at SPRI, Lynda directed this past summer's event "Rock the Research," featuring Darius Rucker. The concert and gala broke all records for attendance and revenue, with Rucker playing to a standing room only audience of 2,700.

Active in our community, Lynda has served on the board of the Breast Cancer Awareness Group for the past 16 years. She spent two years as the president of the Red Sandstone Elementary School PTA, where she successfully headed up the school's campaign for a new playground. She volunteers for Vail Mountain School's Parent Partners, and is currently chairing the Vail Valley Medical Center's annual Hospital Dinner Dance. Lynda has also agreed to sit on the Vail Valley Foundation's 2015 Youth Committee for the World Alpine Ski Championships.

When she is not working or volunteering, you will find Lynda and her husband, Peter, chasing their two young boys, Cooper and Garrett, and their golden retriever, Brody.



FREQUENTLY ASKED QUESTIONS

WHAT NEW RESEARCH INITIATIVES ARE UNDERWAY AT SPRI?

As our Institute looks forward to 2013 and its 25th year of keeping people active, we want friends and supporters to know about plans for two exciting endeavors.

A new initiative is our Global Center for Excellence in Hip Preservation and Research. It will be the first of its kind anywhere. With 285,000 hip replacement surgeries performed each year in the United States, the Center's objective will be to delay or prevent these surgeries altogether.

Directed by Dr. Marc Philippon, the Center will be unique in the world for advancing the prevention, care, and treatment of hip injuries and disease. The Center will fully integrate four labs within SPRI's department of BioMedical Engineering: Biomechanics, Musculoskeletal Mechanics, BioMedical Imaging, and Orthopaedic Engineering.

The objectives of the Center will focus on these areas:

- determine the causes of femoroacetabular impingement (FAI) and other hip pathologies
- advance joint preservation and restoration techniques
- refine surgical techniques to treat FAI and other hip pathologies
- refine and validate hip-rehabilitation protocols
- develop injury prevention measures in young active people.

And our second initiative is our new Sports Injury and Disease Prevention Initiative. Projects already under way at SPRI in this broad area of research will impact millions of lives. In 2012, we began identifying the mechanisms of injury.

As we have reaped the rewards and benefits of sports and exercise, we are also seeing an epidemic rise in sports injuries to children and adults. In our community, for example, we are conducting studies on youth hockey players (ages 10-19 years) and have seen a dramatic increase in the number of hip injuries in children. In the United States, high school students participating in sports (football, soccer, basketball, wrestling, baseball, volleyball, and softball) sustained an estimated 1.2 million injuries during the 2008–2009

school year. Medical and societal costs related to these injuries are substantial. Sports injuries place a substantial burden on the healthcare system for both initial care and rehabilitation. They also result in costs related to lost productivity and other economic factors. Anterior cruciate ligament (ACL) knee injuries, for example, are usually sports-related and can be debilitating enough to prevent continued physical activity. The related surgical and rehabilitative costs of ACL repair total approximately \$646 million annually in the United States.

The scientifically validated deliverable will be the identification of injury risk factors, understanding the mechanism of injury, and implementation of an injury prevention program to provide a decrease in the annual injury rates for participants in specific sports. Our ultimate goal is to have injury prevention knowledge transferred from the specific sports participants to the general public.

Since 2007, the International Olympic Committee has placed a high priority on developing injury prevention programs in high-level and recreational sports. The IOC's Medical and Scientific Department is currently developing research in injury prevention, education, and implementation of new knowledge. As IOC President Dr. Jacques Rogge, who is a leader in this effort, said, "The evidence suggests that, although sports participation is beneficial, injuries are a significant side effect. To promote physical activity effectively, we have to deal professionally with the health problems of the active patient. This involves not only providing effective care for the injured patient but also developing and promoting injury prevention measures actively."



SAVE THE DATE

Edwin McCain to Perform for Summer Benefit Concert

We are excited to announce that American singer-songwriter Edwin McCain will show his support for the Steadman Philippon Research Institute (SPRI) as the



Edwin McCain

headline performer for the Institute's 2013 annual summer fundraising concert. "Rock the Research" is scheduled for Thursday, July 11, at the Gerald R. Ford Amphitheater in Vail, Colorado.

McCain is a well-known alternative rock singer-songwriter. While his albums are released under his name, he does have a permanent band, referred to as the Edwin McCain Band.

Long-time touring friends with Hootie and the Blowfish, the Edwin McCain Band released their first major-label album, "Honor Among Thieves," in 1995. Mid-2004 saw the arrival of his first studio album in three years, entitled "Scream & Whisper," which was released by label, DRT Entertainment.

Edwin McCain Band's original material CD, titled, "Lost in America," was released in, 2006, by Vanguard Records. This was a true "rock 'n roll" collection. There were three single releases from this CD: "Gramercy Park Hotel," "Truly Believe," and "The Kiss."

Edwin's next release, a collection of rhythm and blues cover songs entitled "Nobody's Fault But Mine," was released June 24 2008 under the Saguaro Road Records label.

In 2010 he released "The Best of Edwin McCain," a 20 career retrospective that included a cross-section of material as well as a new single, "Walk With You."

McCain's tenth album, "Mercy Bound," was released August 30, 2011.

All proceeds from the concert will fund new research for orthopaedic injuries and conditions. Last year's event was extremely successful and we are looking forward to another sellout crowd. For information on the dinner and auction, please call Lynda Sampson (970) 479-5809.



Steadman Philippon Golf Tournament

THE VAIL VALLEY MEDICAL CENTER 2013 STEADMAN PHILIPPON RESEARCH INSTITUTE GOLF CLASSIC PRESENTED BY RE/MAX INTERNATIONAL SET FOR AUGUST 15, 2013

Proceeds will support the orthopaedic research and educational programs of the Steadman Philippon Research Institute.

The team event held at Sanctuary Golf Course, in Sedalia, Colorado, just south of Denver, will include a shotgun start with a modified scramble. The tournament is open to the public. Sanctuary organizes and hosts charitable events to support organizations devoted to the arts, children, health care, and crisis management.

Since 2004, the Institute has raised more than \$1.2 million from this golf tournament to support its research programs. Renowned course architect Jim Engh, *Golf Digest's* first-ever "Architect of the Year," designed the course that protects a private oasis of 220 acres, effectively complementing the 40,000 surrounding acres of dedicated open space.

The Steadman Philippon Research Institute is grateful to Dave and Gail Liniger, owners and co-founders of RE/MAX International, who built this course and created this unique fundraising opportunity for the Institute to develop and enhance relationships with those who support our mission.

Sponsorship opportunities and team slots are available now. More information can be obtained by visiting our website (www.sprivail.org) under "Upcoming Events," or by calling the Development office at (970) 479-5781. To request an invitation or for more information on other upcoming events, please contact John McMurtry at the Steadman Philippon Research Institute, (970) 479-5781.





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Steadman Philippon Research Institute is a tax-exempt 501 (c) (3) charitable organization dedicated to keeping people active.

The Steadman Philippon Research Institute is dedicated to keeping people of all ages physically active through orthopaedic research and education in the areas of arthritis, healing, rehabilitation, and injury prevention.

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Mark Your Calendar:

JULY 11, 2013

SPRI Presents Edwin McCain in Concert
Gerald R. Ford Amphitheater
For more information, contact Lynda Sampson
at (970) 479-5809

AUGUST 15, 2013

Vail Valley Medical Center 2013 Steadman
Philippon Research Institute Golf Classic,
presented by RE/MAX, LLC at Sanctuary,
Sedalia, Colo.
For more information, contact John McMurtry
at (970) 479-5781 or mcmurtry@sprivail.org

Executive Editor:

Jim Brown, Ph.D.

**Your Legacy, Our Future. Please remember Steadman Philippon
Research Institute in your will, trust, or other estate plan.**



SPRI has a Facebook page! Search for "Steadman Philippon" on Facebook and click "like" on our page. Watch our wall for updates on our research as well as lecture series, orthopaedics in the news and more!