STEADMAN PHILIPPON RESEARCH INSTITUTE

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INSIDE

The Institute wishes to express deep appreciation to John P. Kelly, who donated the stock photo and contributed his time to photograph the many Institute and operating room subjects.

Dr. Peter Millett's Career Guided by Family, Focus, and Influential Mentors

By Jim Brown, Ph.D., Executive Editor, *SPRI News*

Perhaps it was preordained or a vocation—a calling. His high school's motto (in Latin "ad altioar natus') meant "born for higher things," a guiding ideal he took seriously and literally.

Whatever it was, Peter Millett's path to becoming one of the world's premier orthopaedic surgeons began early. It was driven by his ability to focus on a goal, by events—some difficult, and a legendary procession of teachers and mentors.

"As long as I can remember, I wanted to be a doctor," he says, recalling his childhood and growing up in the small rural town of Dalton, Pennsylvania. "I had a younger brother, Andy, who died of cancer when I was 14. The dedication of his doctors at Children's Hospital in Philadelphia really solidified my dream. His oncologist was Dr. Audrey Evans. She is a famous cancer researcher and clinician, and was the person who founded the Ronald McDonald Houses."

Dr. Millett grew up on a small farm and learned to use his hands early. Like many other orthopaedic surgeons, Dr. Millett played sports in high school (baseball and football). He skied competitively, still does, and liked everything

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outdoors. To this day, he enjoys pursuing his passion for fly fishing and serving on the Board of Directors of the American Museum of Fly Fishing.

"My parents had a profound impact on me," he says. "Their love and support were the most important influences on my life." He still talks with them several times a week.

A TRANSFORMATIVE PLACE

"I probably started thinking about orthopaedic surgery when I was in college at the University of Scranton, and then really became interested in the field in medical school at Dartmouth, which was a transformative place for me. I loved being there, and I met so many interesting and inspirational people," he says. "Dartmouth really did a great job of training doctors to be great clinicians with great bedside manners. They taught you about the importance of compassion and rapport and caring for the patient."

"In medical school, I also had the opportunity to observe surgery and liked the mechanical aspects of it. I developed a growing awareness that orthopaedic surgery improved people's lives qualitatively, not just quantitatively. The outcomes were fairly direct and tangible, the specialty allowed you to treat patients from pediatrics to geriatrics, and it demanded a broad range of surgical skills."

"While I was in med school, I saw a clipping in the Vail newspaper about Dr. Richard Steadman and his research foundation in Vail. I knew about him because of my ski racing background. I called and asked him if I could go there to do research. He said they didn't take medical students, just fellows. I really didn't know what a fellow was at that time, so I said, 'Okay, I'll come back and be a fellow one of these days.' Sure enough, I was able to become a fellow several years later."

RESEARCH AT CAMBRIDGE

While in med school, Dr. Millett was selected to serve as a visiting research scholar at the University of Cambridge, England, the second oldest university in the English-speaking world. Cambridge has a tradition of great scientists, from Sir Issac Newton, to Charles Darwin, to James Watson and Francis Crick, who, in 1962, were awarded the Nobel Prize for the discovery of the structure of DNA, called one of the most significant discoveries of the 20th century.

"I conducted research in orthopaedic surgery, principally skeletal biology," he says. "Some of the scientists there were pioneers in transplant surgery. Learning to ask scientific questions and to find answers that could advance the field helped make my year at Cambridge a great experience." Dr. Millett was awarded a master's degree in science (M.Sc.) for his work at Cambridge.

DARTMOUTH, NEW YORK, AND VAIL

He returned to Dartmouth for his final year of medical school, then went to New York City's Hospital for Special Surgery, one of the oldest and most prestigious hospitals for residencies in the country. Again, he was exposed to great doctors and great surgeons. One who particularly inspired Dr. Millett was Dr. Russell Warren, a pioneer in sports medicine who at the time was Surgeon-in-Chief at HSS and team physician for the New York Giants. Dr. Warren has served in that role as team doctor now for three decades.

While at HSS, Dr. Millett twice received the Lewis Clark Wagner Award for excellence in orthopaedic research (the top resident research award), as well as the American Orthopaedic Association—Zimmer Travel Award, a national award for orthopaedic research.

Next in his career path was a fellowship in Vail. "It was at the time and, in my opinion, still is arguably the top sports medicine fellowship in the country," he says. "The

time spent working with Dr. Steadman and Dr. Hawkins was very much a mentorship experience."

ON THE FACULTY AT HARVARD

From there he accepted a position at Harvard Medical School, where he practiced at Brigham and Women's Hospital and the storied Mass General (Massachusetts General Hospital). Again, he found a senior partner/mentor, Dr. Jon JP Warner, Chief of the Harvard Shoulder Service.

"When I went to Boston, there weren't many good minimally invasive treatments for rotator cuff tears, shoulder instability, or for arthritic shoulders. But about that time, there was a huge technological breakthrough. Arthroscopic techniques allowed us to do all kinds of things we couldn't do before. I had received great knee arthroscopic training and skills with Dr. Steadman, and was able to transfer those skills to the shoulder."

Dr. Millett says he thought he was going to stay at Harvard forever, but five years into his stay in Boston, he got a call from Dr. Steadman asking him to consider coming back to fill the void that had been left when Dr. Hawkins moved to South Carolina.

"Dr. Steadman told me that Vail was 'the best place to practice orthopaedics.' Even when I was at Harvard, there was a part of me that thought the same thing. I accepted his offer and ten years later, I still think it's true."

PROFESSIONAL RECOGNITION

During those ten years, Dr. Millett's work has often been recognized by his peers and patients. He has authored over 180 peer-reviewed, scientific articles, numerous book chapters, and four books on orthopaedics, sports medicine, and shoulder surgery. His academic work has been recognized with awards from several international societies, including the 2015 Achievement Award from the American Academy of Orthopedic Surgeons, for his contributions to the field.

In May 2015, he was selected by *Orthopedics This Week* as a 2015 Top Shoulder Surgeon in North America and recognized for his commitment to research and clinical excellence. He has been ranked in the top one percent of orthopaedic surgeons by *U.S. News & World Report*.

Considered a pioneer in double row arthroscopic rotator repair, his innovative procedures also include the comprehensive arthroscopic management (CAM) shoulder surgery, bone grafting for shoulder instability, humerus fracture repair, shoulder replacement surgery, and AC joint repair, as well as treatments for less common conditions such as snapping scapula syndrome and sternoclavicular instability.

BIOLOGIC TECHNOLOGY

"Now, in select patients, we are using a procedure called arthroscopic superior capsular reconstruction (ASCR)," says Dr. Millett. "It involves using biologic technology to rebuild the rotator cuff, and it will make a big difference for patients who otherwise don't have a solution to their problem."

"This kind of regenerative medicine, combined with methods now being researched at SPRI, is going to be the cornerstone of what we do," he adds. "We have a reciprocal relationship with those here who are studying basic science. They make observations in animal studies or cell cultures that we can use clinically with a scientific basis for doing so. In the clinic, we'll make observations about certain conditions and responses to treatment in patients that we can further investigate in the lab. This cross-pollination of ideas is what leads to major breakthroughs."

Without clinical input, basic science might not have findings that translate to patient care. Without a scientific basis, what happens in the clinic would not be evidence based. At The Steadman Clinic and SPRI, it is very much a reciprocal relationship.

"Dr. Steadman told me that Vail was the best place to practice orthopaedics. Ten years later, I still think it's true."

CHANGE AND GROWTH

Since coming to SPRI, Dr. Millett has seen and been a part of tremendous change and growth. He has now trained over 70 clinical fellows, in addition to starting

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and expanding the Visiting Scholars Program, having personally trained international doctors in Vail from Austria, Germany, Netherlands, France, and Mexico.

Additionally, there are always visiting surgeons who come from around the U.S. and the world to watch surgery and learn. Last year alone, there were visiting surgeons from Brazil, Norway, Finland, South Africa, Italy, United Kingdom, France, and China. Dr. Millett served as the local host for the Arthroscopy Association of North America Traveling Fellowship when they came to Vail and SPRI.

The research production at SPRI has also increased dramatically over the last decade, reflected by the number and quality of publications. SPRI has received support through grants, public donations, corporate partners, and events. The number of doctors and scientists trained at SPRI also continues to grow.

"With the added program in regenerative sports medicine and the positive leadership team we have in place," says Dr. Millett, "there are lots of reasons to be excited about the future of the Steadman Philippon Research Institute."

SHARING WITH A NEW GENERATION

"People should know that we are a world leader in orthopaedic sports medicine and a serious place for scientists and surgeons interested in advancing our field and keeping people active. The support that we get does not go into science for the sake of science. Our research has direct clinical impact," Dr. Millett concludes. "The doctors and researchers we train here go back to their communities and countries as ambassadors for what we do, take our ideas, and spread them beyond the Vail Valley to have a global impact."

Once the beneficiary of great teaching and mentoring, Dr. Millett now shares his knowledge and skills with a new generation of doctors.

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SARAH MILLETT AND COMPANY

Dr. Millett married his childhood friend and later sweetheart, Sarah, who was an economics major at Dartmouth and earned a M.Ed. at Simmons College in Boston. They "re-met" during his residency at HSS, when they literally ran into each other while jogging in Central Park. Maybe it was that destiny thing again. Married since 1999, they have three girls and a boy, all active in sports—no surprise there. As if she wasn't busy enough at their home in Edwards, Colorado, she opened, operated, and sold three restaurants in the Vail Valley. Dr. Millett calls her "the most amazing and interesting woman I know."

Shoulder Specialist Peter Millett, M.D., M.Sc., and Team Receive Top Research Award at the 2015 Germany Arthroscopy Association Meeting for Study on Shoulder AC Joint

The top research award was given to Dr. Millett and his team at the Steadman Philippon Research Institute for a study on grade III acromioclavicular joint injuries.

Internationally recognized, Colorado shoulder specialist Peter Millett, M.D., M.Sc., and his team at the Steadman Philippon Research Institute were awarded the Gewinner Medi Award at the 2015 German Arthroscopy Association (AGA) meeting in Dresden, Germany, for their research, "Clinical Results Following Management for Grade III Acromioclavicular Joint Injuries: Does Eventual Surgery Affect Overall Outcomes?"

The Gewinner Medi Award is a biannual award, given to the top paper on the treatment of joint injuries in sports and arthroscopic surgery.

The management of grade III acromioclavicular (AC) joint injuries, also known commonly as shoulder separations, is sometimes controversial. There have been concerns that delaying surgical treatment — to see if the injury will get better without surgery — could lead to inferior results in those who eventually opt for surgery. Data from patients at Dr. Millett's practice were used for the study.

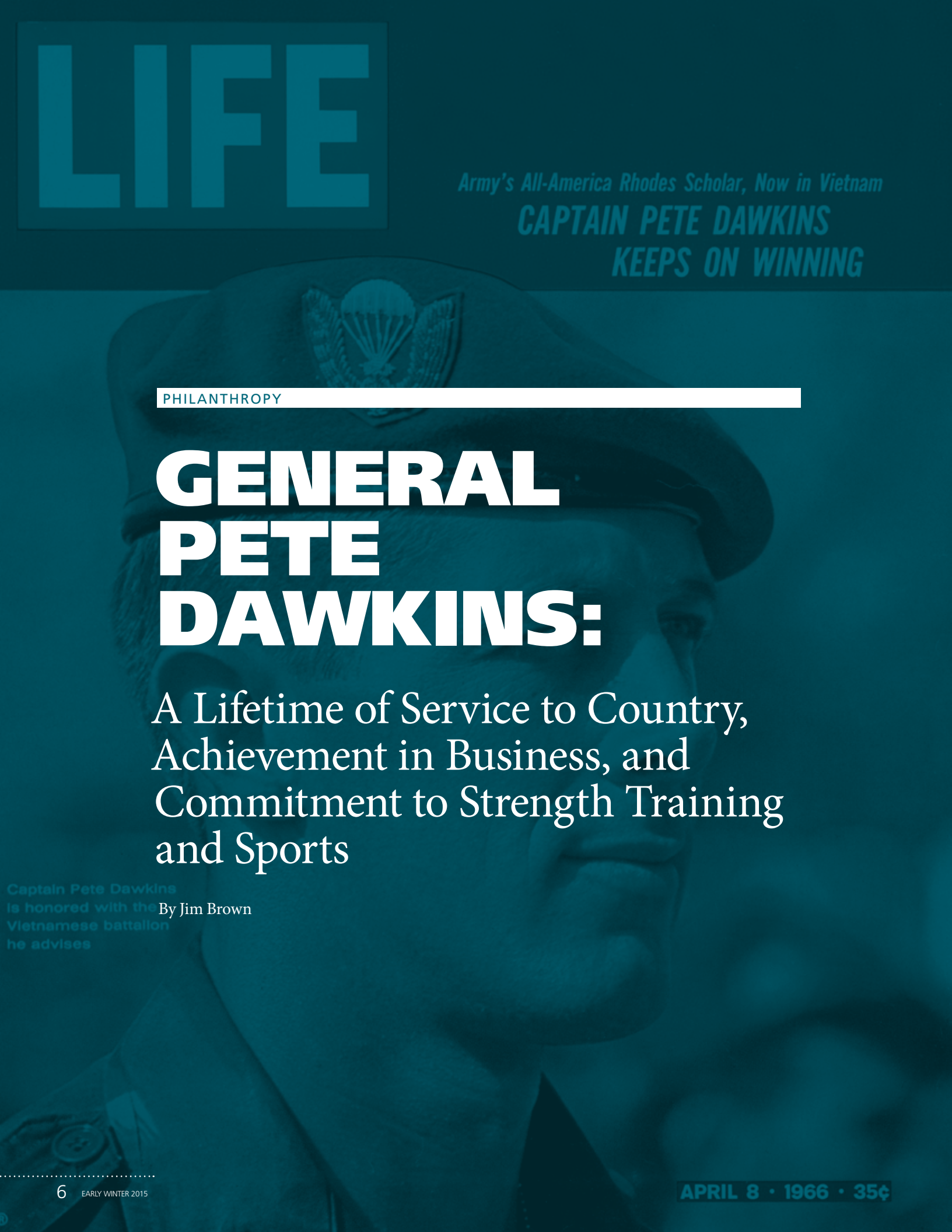
This study, co-authored with researchers Max Petri, M.D., and Marilee Horan, M.P.H., Coordinator of Upper Extremity Research at SPRI, found that delaying surgery after acute grade III injuries to the shoulder AC joint did not affect the ultimate outcome. Based on the data collected, a trial of non-operative treatment is warranted, as successful outcomes can be expected, even in those patients that eventually opt for surgery.

A secondary finding showed that patients who went to their orthopaedic doctor for initial evaluation 30 or more days after their injury were more likely to opt for surgical treatment. This study is part of a series of ongoing studies at SPRI on the arthroscopic surgical management of AC joint injuries.

"This award from AGA is a great honor for our team and we hope that this research will help surgeons make better decisions about the best treatment for their patients with AC joint injuries," said Dr. Millett.

Founded in 1983, the German Arthroscopy Association is the largest arthroscopy society in the world. The goal of AGA is to foster close contact among physicians practicing arthroscopy and provide a forum for mutual exchange of ideas. "This award from AGA is a great honor for our team, and we hope that this research will help surgeons make better decisions about the best treatment for their patients with AC joint injuries," said Dr. Millett.

In addition to receiving the award for this study on AC joint injuries, Dr. Millett was invited to the 2015 Annual AGA Meeting as an international guest speaker. He spoke on superior labrum anterior and posterior (SLAP) tears and biceps tendon disorders and their surgical treatments.



PHILANTHROPY

GENERAL PETE DAWKINS:

A Lifetime of Service to Country, Achievement in Business, and Commitment to Strength Training and Sports

By Jim Brown

GENERAL PETE DAWKINS: A LIFETIME OF SERVICE TO COUNTRY, ACHIEVEMENT IN BUSINESS, AND COMMITMENT TO STRENGTH TRAINING AND SPORTS

At age 11, the prospect of Peter Miller Dawkins later becoming a three-sport high school star, an All American halfback at Army, and a Heisman Trophy winner did not look promising. His growth already slowed by scarlet fever, now he had polio.

"Polio was a major debilitating disease in the era when I got it," says retired U.S. Army Brigadier General Pete Dawkins. "The standard treatment was to put you in a body cast. Unfortunately, doing so usually resulted in permanent deformation of the spine."

His mother, Frances, had other ideas. She found a young doctor in Detroit named Ethel Calhoun, who pioneered the Sister Kenny method of using hot packs, therapy, and aggressive exercise to treat people, especially children, stricken with polio.

"I owe my mother and Dr. Calhoun a huge debt of gratitude," says General Dawkins. "I went through two years of daily physiotherapy, which was very aggressive, to the extent that it would often make me cry as they manipulated these different muscle groups."

Dr. Calhoun's methods worked, and Pete Dawkins' athletic career was about to take off. "If you could kick it, hit it with a stick, or throw it, I would play it, but I was still very small for my age and knew I was going to have to build up my physical stature," he remembers.

CHARLES ATLAS ADS

"The real starter for me was a Charles Atlas advertisement in the back of Popular Mechanics. Atlas had come up with something he called Dynamic Tension, which was actually isometric exercise before anybody knew what it was. I sent my money, got the manual, and did the exercises."

"I also wanted to start weight-lifting, but I didn't have any weights, so I took a lead pipe, two big coffee can-sized containers, filled them with cement, and made a set of barbells. With that primitive equipment, I set out with a kind of maniacal determination to transform myself from the proverbial '98-pound weakling' into a Charles Atlas. My enthusiasm was unmistakable and, before long, my parents bought me a set of weights."

"When I got to high school (Cranbrook School), I was the smallest player on the freshman football team and was cut from the basketball team. But day-after-day, for four years, I continued my regimen and by the time I graduated, I was 6-1 and weighed 185 pounds."

At Cranbrook, he was captain of the baseball team and an All-League split-T running quarterback in football.

ACCEPTANCE INTO WEST POINT

Pete had been offered a full, four-year scholarship at Yale, but a trip to West Point with his high school coach, meeting the legendary Army Head Coach Earl "Red" Blaik, and seeing the United States Military Academy solidified where he wanted to go college.

By the time he decided, however, it was too late to apply. He took the entrance and physical exams anyway, and was placed into the Qualified Alternate pool. When another applicant decided not to attend West Point, Dawkins was selected for admission by Jack Riley, Army's hockey coach—not Colonel Blaik, the football coach.

"I got a telegram on June 26th notifying me that I had been selected for the Class of 1959 and that I was to report to the Military Academy on July 3rd. I walked into the kitchen and told my parents that I was going to West Point."

NO WEIGHTLIFTING ALLOWED

"I realized I was never going to be able to compete at the Division I level of college football at 185 pounds, but Army did not allow its athletes to lift weights."

"They didn't want you to be muscle-bound," he says. "I coaxed my parents to drive from Michigan with a set of barbells in the trunk of their car. We managed a secretive handoff of the weights through the window of my room in the barracks."

There was another problem, but Pete's commitment to weightlifting prevailed again. Rooms were inspected every day and because weights were prohibited, he had to figure out a way to hide them.

"I strapped the bar to the backside of the metal bunk with two belts and laid the weights flat between the spring and the mattress. After taps every night, I lifted weights in the dark. I did that for four years and played my senior year weighing almost 220 pounds."

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HONORS—ACADEMIC AND ATHLETIC

If you know anything about college football history, you know about Pete Dawkins' career at Army. Captain of an undefeated team, All-American, Heisman Trophy winner, cover of Life Magazine.

To this day, he is the only Cadet to ever serve as Brigade Commander, president of his class, captain of the football team, and a "Star Man"—in the top five percent academically. His class at West Point produced six Rhodes Scholars, and he was one of them. He later attended Princeton, where he earned an M.P.A. and Ph.D.—two of his five degrees.

24 YEARS A SOLDIER

General Dawkins served in Vietnam and Korea. He rose to the rank of Brigadier General with commands in the 82nd and 101st Airborne Divisions, earning two Bronze Stars for valor and three Vietnamese Crosses of Gallantry. He taught at West Point, worked on the task force to adapt the Army to a volunteer status, and was selected as a White House Fellow. At the Pentagon, he finished his military career as the Army's Director of Strategy, Plans, and Policy.

After his service in the Army, General Dawkins became a partner in the Wall Street firm of Lehman Brothers as Head of Public Finance Banking. He later joined Bain and Company, was CEO of Primerica Financial Services, and ultimately rose to become Vice Chairman of Citigroup's Global Wealth Management.

He was elected to the National Football Foundation and College Hall of Fame in 1975, received the Eisenhower Award for distinguished service in 2000, and was honored with the Horatio Alger Award in 2006.

MORE MEDICAL CHALLENGES

It may not be a record, but General Dawkins has had more than his fair share of orthopaedic issues—19 surgeries, six platelet-rich plasma procedures, and a dozen epidural injections. Seventeen of those procedures were done by Steadman Clinic doctors, as well as another involving his wife Judi, one more for his son, Sean, and three for daughter, Noel. The "Family Dawkins" have been the beneficiaries of 22 major Steadman Clinic surgical procedures.

"I've had the good fortune of a lifetime of involvement in sports," says Dawkins. "And I'm still able today to work out, lift weights, and enjoy a fully active lifestyle. That was only made possible by the talent and commitment of the spectacular Steadman Philippon team."

"Judi and I began coming to Vail in the 1970s, before the Steadmans moved here. Soon after they arrived, however, we were introduced and, before long, we became good friends."

"The first surgery Dr. Steadman did on me was an injured knee that had been repaired, but kept getting worse. He decided that microfracture was called for, but it turned out that I needed shoulder surgery, as well. It's a long and somewhat complicated story, but I ended up badgering Dr. Steadman and Dr. Hawkins into doing the two surgeries simultaneously—with a single anesthesiologist. We laugh about it to this day, but in retrospect, it's clear that my stubborn insistence really wasn't all that wise a decision."

THE STEADMAN PHILIPPON APPROACH

"To me, there are a number of examples of genius that Dr. Steadman, Dr. Philippon, and their colleagues have brought to The Steadman Clinic and the Steadman Philippon Research Institute. The classical model of orthopaedic surgery is for the surgeon to perform the operating room procedure, then turn the patient over to physical therapists and, likely, never see them again."

"The philosophy here is entirely different. The surgeons are in physical therapy rooms every day, monitoring their patients' progress, offering ideas, and making suggestions about adjustments and refinements. This close teamwork among doctors, therapists, and patients is a lasting legacy of Dr. Steadman's approach and is at the heart of what makes this place so creative and so special."

General Dawkins also notes that the Steadman Clinic doctors are involved citizens in the Vail Valley community, not just physicians. He became familiar with the Steadman Philippon Research Institute "by osmosis," serving on a medical board with Dr. Steadman, learning about the kinds of sophisticated research being

Brigadier General Pete Dawkins and Judi Dawkins

conducted, and following the expanding nature of SPRI's influence on the orthopaedic sports medicine world.

NEW FRONTIERS

"They are taking their unique approach to treatment, rehabilitation, and the intimate interconnection between the two, to the next level through the Research Institute. Now they are addressing new frontiers of regenerative sport medicine not in a casual way, but through strict, disciplined, and professional approaches. It's very exciting."

Gen. Dawkins is particularly aware that many physicians look at people in his age group and think there is no reason to undertake exceptional measures to restore full athletic ability after serious injuries to the hip, knee, or other joints. They seem willing to accept major limitations and to take the approach that the body will just take care of itself.

"But if somebody like me wants to continue skiing, playing golf, and living a full and active life, it's not okay," says Dawkins. "The mindset of people at Steadman Philippon is to help people, regardless of their age, return to full athletic competency. That mindset is a treasure."

UNLIKE ANYTHING IN THE MEDICAL WORLD

"Supporting the work of SPRI is supporting these doctors and scientists who are trailblazers, pursuing initiatives unlike anything else I'm aware of in the medical world. If those who read this newsletter are making decisions about non-profit institutions to support, I hope SPRI is right at the top of the list."

It's apparent that General Pete Dawkins is not finished attacking the kinds of challenges he's faced ever since he won his fight against polio as a kid.

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The Steadman Clinic/SPRI Military Connection – Updates

The Steadman Clinic is proud to keep many of our active and retired military personnel healthy and ready to serve their country and the communities where they live. Here are updates on Brian Porter, John Tokish, M.D., Edmund Ganal, M.D., and John Kelly—all beneficiaries of the research conducted at the Steadman Philippon Research Institute.

Brian Porter

John 'JT' Tokish, M.D., Lt. Col. USAF

BRIAN PORTER: THE DUTIES OF PARENTHOOD CARRY UNEXPECTED RISKS

Brian Porter is not a person who avoids physical risk. He is a Marine who served in Panama and in the Gulf War's Desert Storm, among other deployments. He is a skier, hiker, and mountain biker. But he's also a parent, and sometimes being a parent involves unexpected risks.

"I had been pulling my one-year-old daughter on a sled and was carrying her up our driveway, which was very slippery," says Brian, a professional photographer who lives in the mountain town of Basalt, Colorado. "I reached down to pick up the sled, slipped, and fell, but managed to keep her from hitting the ground with me."

Brian was taken to a nearby hospital, where an ACE bandage was wrapped around his lower waist and where he was given an initial (and incomplete) diagnosis. He was then transferred to The Steadman Clinic. There he was diagnosed with five transverse process fractures (five bones in the spine) and two broken ribs.

He was treated by Dr. Donald Corenman, M.D., D.C., who specializes in disorders of the spine and neck, and immediately prescribed a program of physical therapy.

"What stands out for me is the emphasis Dr. Corenman and The Steadman Clinic place on getting you back to what you were doing before an injury," says Porter. "I am an active person, and that was important to me."

"A plan was laid out based on the objective of me becoming completely active in the shortest amount of time possible," says Porter. "I was surprised when Dr. Corenman told me I'd be back in four-to-six weeks because others had told me it could take as long as a year to fully recover. Even after two weeks of physical therapy, I was thinking 'this is not going to work.' "

"At four weeks into physical therapy, it was like something magical happened in terms of how I felt and what I could do," he remembers. "At six weeks, I was able to ski again. Today, it's like the fall and broken bones in my back and ribs never happened."

"Over the years, I've known hundreds of people in the Vail Valley who have gotten successful treatment at The Steadman Clinic when they could not get it in other places," says Brian. "It's good to know you have a place that is held in such high esteem and where they treat you based on evidence developed in the Steadman Philippon Research Institute."

JOHN TOKISH, M.D.

Dr. John Tokish was an Air Force Major when he served as a fellow at the Steadman Philippon Research Institute (it was then the Steadman Hawkins Research Foundation) in 2000-2001. For 10 years, he had been Chief of Sports Medicine at the Air Force Academy.

Three months after completing his fellowship, Major Tokish was deployed to Afghanistan. As one of the first orthopaedic surgeons in the war zone, he was assigned command of the first Mobile Forward Surgical Team and served on the front treating soldiers from U.S. Special Operations, the Army's elite combat group. After

Lt. Cdr. Edton Ganal, M.D. scrubbing into a surgery in a Forward Resuscitative Surgery System operating tent - May 2011. Despite the austere conditions, he was able to rapidly perform damage control surgery on several combat casualties.

John P. Kelly with Mookie

Dr. Tokish finished his stay at the Air Force Academy, he became Program Director in Orthopaedics at Tripler Army Medical Center in Honolulu.

Dr. Tokish's career has come full circle since his fellowship days in Vail. He now practices at the Steadman Hawkins Clinic of the Carolinas in Greenville, South Carolina. He accepted the position after completing his military service to be reunited with Dr. Richard Hawkins, under whom he had trained as an SPRI Fellow 15 years ago.

LIEUTENANT COMMANDER EDMUND GANAL, M.D.

United States Navy Lieutenant Commander Edton Ganal, M.D., was an SPRI Fellow in 2012-2013. Before joining SPRI, Dr. Ganal served with the 1st Marine Division at Camp Pendleton, at the Naval Medical Center in San Diego, and at the Naval Station in Newport.

He deployed to Iraq in support of Operation Iraqi Freedom and later to Afghanistan for Operation Enduring Freedom. In Iraq, Dr. Ganal was the General Medical Officer for an infantry combat unit of 2,000 people.

During the two years since his fellowship, he has been stationed at Naval Health Clinic New England, in Newport, Rhode Island, where he treats active duty personnel, retirees, and their dependents at the Naval Submarine Base New London in Groton, Connecticut, and the training commands of the Naval War College and Officer Development School in Newport. Dr. Ganal plans on separating from the Navy a year from now and looks forward to taking his experience to a civilian practice.

"SPRI has had a large role in my development as a surgeon," says Dr. Ganal. "I have been fortunate to train with world renowned experts in their fields and have incorporated their knowledge and mentorship into the care of my patients."

JOHN KELLY

John Kelly's "Patients in the News" story first appeared in a 2007 edition of the *SPRI Newsletter*. Years earlier, John was a First Lieutenant, A Troop, 3/17 Air Cavalry in Vietnam, where he began taking pictures. Self-taught, he became one of the world's most famous photographers. You've seen a John Kelly photograph. It might have been a movie star, a famous athlete, a rock star, or an iconic image from some far-away place or at his End of the Road ranch in western Colorado.

John has been and still is part of The Steadman Clinic and the Steadman Philippon Research Institute at many levels. He has known physicians, scientists, administrators, and staff members at SPRI. He has been a patient for both shoulder and hip surgery. But perhaps most importantly for SPRI, he has been the photographer who takes the pictures you see in this newsletter, the *SPRI Annual Report*, and other publications.

John's contributions to SPRI are valuable works of photographic art that give the rest of the world a glimpse into the world of orthopaedic research being conducted by the Institute. He has a unique perspective and a powerful platform that he generously uses to be an advocate for the Steadman Philippon Research Institute.

RESEARCH UPDATE

Jim Cummins Plays a Key Role in Managing the SPRI Team at the Center for Regenerative Sports Medicine

By Jim Brown

When Dr. Johnny Huard was named Director of the Center for Regenerative Sports Medicine at SPRI in May, he didn't come alone. He brought 15 scientists, physicians, technicians, and staff members that make up one of the most talented and diverse research teams in the world.

A key member of that team is James (Jim) Cummins. Jim and Dr. Huard worked together for 15 years before leaving the Department of Orthopaedic Surgery at the University of Pittsburgh Medical Center. Now, they have dual appointments at the University of Texas Health Science Center at Houston and the Steadman Philippon Research Institute in Vail. Cummins' title at SPRI is Program Manager - Research.

"My main job at the beginning was to set up the lab at SPRI," he says, "and I think we've done that. We're performing science in the lab, and I help guide those who are working there in developing experimental designs correctly. I also coordinate the work of team members who rotate between Vail and Houston, and I assist Dr. Huard in writing grants, progress reports, and scientific papers."

UNIQUELY QUALIFIED

Cummins brings a lifetime of research experience to the position. "I've been in the lab forever," he says jokingly.

After getting a Bachelor of Science in microbiology at the University of Pittsburgh, he was hired as a research technician in the Department of Biology. He became certified as a Laboratory Specialist in Cytogenetics—the microscopic analysis of chromosomes in individual cells—and went on to become a Research Manager at Children's Hospital of Pittsburgh and a Senior Scientist at the University of Pittsburgh, winning multiple research awards during his tenure.

Jim also developed a simplified clinical molecular assay to diagnose a condition called fragile X syndrome, which is characterized by mental retardation, behavioral patterns, and distinct physical features. He was involved with the development of several molecular assays for the detection of various mitochondrial myopathy syndromes, including MELAS (an acronym for mitochondrial encephalopathy, lactic acidosis, and stroke), MERRF

(myoclonic epilepsy with ragged red fibers), and NARP (neuropathy, ataxia, and retinitis pigmentosa).

He is author or co-author of 41 peer-reviewed scientific publications, 111 scientific abstracts, and five review articles and book chapters.

"When Dr. Huard joined the faculty at the University of Pittsburgh, he recruited me to be his lab manager," says Cummins. At the time of his recruitment by Dr. Huard, Cummins was also being recruited by Molecular Diagnostics and Cytogenetics at the University of Pittsburgh. "I opted to take the position with Dr. Huard and continued to work with him in Pittsburgh until earlier this year, when the positions at UT and SPRI were offered."

"Dr. Huard's team is establishing something at SPRI that is unique, and I'm excited to be a part of it," says Cummins. "One of the things that got my attention was that SPRI is one of the few facilities in the country that is designated by the U.S. Olympic Committee to care for Olympic athletes."

"But more importantly, Steadman Philippon is in a unique position because it's doing research as a private organization. At SPRI, we have more freedom to do things quickly."

A TEAM WITH SPECIALIZED EXPERTISE

Members of Huard's SPRI team, many of them faculty members at UT Health Science Center, each have special areas of expertise. They work toward the same overall goal, but specialize in areas such as aging, cardiac repair, bone inflammation, and healing.

"Dr. Huard's research has found that adult-derived stem cells from muscle tissue have the ability to survive very well when they are re-introduced into the body," says Cummins. "We have evidence that they can regenerate bone and muscle, and we're looking into the use of stem cells to repair tendons and ligaments."

"People think these cells make new tissue, but that's not the case. What we are finding is that the cells are giving off various growth factors (cytokines) that promote the host cells to do the work of regeneration." For example, the Huard team has shown that injecting a mouse model of progeria (a syndrome of accelerated aging) with stem cells isolated from normal young mice extended the animals' longevity by 48 percent.

CLINICAL APPLICATION TO MAKE LIVES BETTER

Although some research will take extended periods of time, the technology of isolating the muscle-derived stem cells has been patented and is being used today at SPRI, the University of Texas Medical Center at Houston, the University of Pittsburgh, and at other sites. At SPRI, the focus will be on orthopaedic conditions that affect exercisers and athletes.

"The most rewarding part of my job is knowing that the work is progressing to a point where it can be clinically applied to make patients' lives better," says Cummins. "There is the real possibility that these cells are going to be used for conditions such as osteoarthritis, which now affects one in five adults and almost half of adults over 65."

SPRI's Center for Regenerative Sports Medicine, headed by Dr. Huard and managed by Jim Cummins, is in a position to lead the world in regenerating human cells, tissues, and organs to restore normal function.

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FUNDRAISING

THE GIFT THAT WON'T AFFECT YOUR CASH FLOW

What if we could describe a way to make a gift today that:

- wouldn't affect your cash flow,
- could let you breathe a little easier in these uncertain times, and
- could make you feel good knowing you could provide for your family and continue your commitment to the research, treatment, and education conducted by the Institute?

We can show you how to do that just by considering a charitable bequest to the Steadman Philippon Research Institute.

Without a doubt, your current gifts are vital to our research into the causes, prevention and treatment of orthopaedic disorders, and we thank you. But another way to provide significant support, without impacting your financial picture today, is with a bequest to the Institute in your will or revocable trust.

This is good planning that will allow you to design your lifestyle in uncertain times, yet by taking these actions, you ensure our future as a world class organization and our opportunity to change so many lives.

HOW TO MAKE YOUR GIFT LAST

You can designate a specific bequest of a sum or asset. Many people choose to specify a percentage of the balance of the remainder of their estate after they have arranged their bequests to loved ones.

Your bequest can be directed to an area of particular interest to you, and we encourage you to call us as you work with your attorney so we can give you the proper language to ensure your gift is directed exactly as you want. When your plans are complete, we invite you to let us know so we can make you part of our Founders' Society—a group of friends of the Institute who have demonstrated their commitment to our work by giving beyond their lifetimes.

Giving can take many forms. There are other ways to remember the Institute in your plans. You can name the Institute as a beneficiary of your retirement accounts or as beneficiary/owner of a life insurance policy you no longer need. Please contact John McMurtry, Director, at mcmurtry@sprivail.org or 970-479-5781.

Appropriate financial and legal advice is important when making these decisions. We encourage you to work with a qualified financial advisor and/or estate planning attorney.

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SAVING, GIVING, ENJOYING

What's a good way to secure advantageous tax savings in 2015, accomplish giving to organizations you care about, and have funds available for enjoying the holidays? Give long-term appreciated stock for your year-end giving.

Donating your long-term appreciated securities will allow you to obtain an income tax deduction for the current market value of your gift and reduce or eliminate capital gains tax as well. With your gift of stock to the Steadman Philippon Research Institute, you help advance our research and treatment breakthroughs. And by giving that stock instead of cash, you have more funds available with which to enjoy the holidays!

To protect your income tax deduction for this tax year, however, the most critical aspect of your gift is ensuring that the securities arrive in our brokerage account by December 31, 2015. If your year-end giving includes gifts of stock, make sure you allow plenty of time if you want to check with your financial advisor, provide instructions to your broker and ensure the transfer of the securities.

The easiest way to make a gift of long-term appreciated stock is through an electronic transfer. Contact your broker to determine what, if any, paperwork they require to transfer your securities to our brokerage account. With the transfer of your securities, you or your broker must provide us with your name and complete address and the name and number of the securities you transferred.

If you have physical possession of the actual stock certificates, please contact John McMurtry, at (970) 479-5781 or mcmurtry@sprivail.org, for instructions on the most secure way to deliver the certificates. Thank you for including the Institute in your giving plans!

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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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