## The Picture of Success

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He shrank from the sight of blood and at one point was a bit more European than American. Dr. James Gladstone, Co-Chief of Sports Medicine at Mount Sinai School of Medicine in New York, has led an intriguing life indeed.

Born in Geneva, Switzerland, to American parents, James Gladstone was accustomed to hearing "Bonjour" and "Gutentag." "My dad specialized in international labor law and established programs for African and South American countries. My mom, who was American-trained, was the first dental hygienist in Switzerland; she juggled work and bringing up two kids. The school I attended had students from 80 countries, so it was an environment where being broadminded was the norm. After living in Geneva for 18 years I decided that it was time to experience life in the U.S. Although I had always considered myself to be an

American and had visited the U.S., I wanted to 'dig into' my native culture. The benefit to all of this internationalism? Things that may seem odd to some people just don't bother me as much. In fact, I feel that having such a broad exposure to different cultures has added an extraordinary dimension to my life."

But he had no such love for the study of mass and matter. "I was drawn to biology, but just detested physics...and hated the sight of blood. While I entered Dartmouth College in 1980 thinking about law, I kept returning to the idea that I wanted to work with people in a way that held some social benefit."

"Medical school was whispering in my ear, but I wasn't ready...I had to prepare for the time and dedication that it was going to require. I took my cold feet and worked at a biotech company for two years as a market researcher and product manager. One day I was on the phone selling and realized that I couldn't care less whether or not this individual made a purchase. I hung up and knew I was ready for medical school."

A twist of fate—and an extremity—would lead Dr. Gladstone toward orthopedics. "Between my first and second year at Tufts University School of Medicine I broke my ankle, went to the school's orthopedic clinic, and ended up meeting Dr. John Richmond, the head of sports medicine for Tufts. He is 100% the reason I am where I am today. I did research with him, and also got a chance to witness the incredible

rapport he had with patients. At that point I could see a light into the future."

It was a future that would include certain aspects of his past. "While in medical school I went to Swaziland to work at a missionary hospital. Unfortunately, the people running the facility had created an 'us versus them' mentality and isolated themselves from the local populace. I had envisaged going there and being part of the community, but it didn't work out that way. Nonetheless, I quickly realized the desperate need for medical care so many people in this world have, and how much one can do with relatively few resources."

Entering residency in 1991 at Columbia-Presbyterian Medical Center's New York Orthopaedic Hospital, Dr. Gladstone found an environment of camaraderie and talent. "Our residency class was large—eight people—and we got along tremendously well. One of those who was instrumental in shaping what I did and how I did it was Dr. David Roye, a pediatric orthopedist who just last year won the AAOS [American Academy of Orthopaedic Surgeons] Humanitarian Award. Watching him communicate with parents was amazing, and I learned, for example, how to put both a three-year old and his parents at ease. Dr. Mel Rosenwasser, Chief of Trauma, was another mentor, and was known for his availability and compassion. He never rushed anyone and was 100% dedicated to his patients. Dr. Evan Flatow, now my Chair, also made a tremendous impression on me with his encyclopedic knowledge of the shoulder joint and his love for discussing it."

"During residency I realized that I felt most comfortable having in depth knowledge in one particular area rather than being a generalist, something that goes along with my somewhat obsessive personality. Besides having been a lifelong athlete, the dynamic and constantly evolving field of sports medicine attracted me the most."

In 1995 Dr. Gladstone was accepted into the Rolls Royce of sports medicine fellowships. "I was very fortunate to get the acceptance call from the American Sports Medicine Institute in Birmingham, Alabama, where I learned from the esteemed Drs. James Andrews and William Clancy. Dr. Andrews gave me the ability to get to the heart of the issue when assessing injuries. He insisted that we know how to distinguish patients who require surgery from those who just need more physical therapy. Dr. Clancy wowed me with his remarkable mind...he understands what he is teaching to an incredible degree."

In 1996 Dr. Gladstone joined the Department of Orthopaedics at Mount Sinai as an assistant professor and specialist in sports medicine. Since then he has had a challenge familiar to those in academic medicine. "Balancing the clinical side of things—the part that runs the engine and pays the bills—with the need to have sufficient time for research, is an ongoing issue. Unfortunately, research takes place in the evenings and on weekends."

The research that Dr. Gladstone is most proud of involves a part of the shoulder that serves as a stabilizer—the rotator cuff. "My team and I looked at rotator cuff repairs from the point of view of the muscle. The traditional approach is to reattach the tendon to the bone, but we took a different course of action. If you think of the tendon as a cable, then if the muscle doesn't work it doesn't matter what happens to the cable. We took MRIs and looked at the condition of the muscle before the rotator cuff repair and then took MRIs a year later to determine what happened to the repair and to the

muscle. Specifically, we are assessing muscle atrophy, as well as fatty infiltration (meaning that fat has developed within the muscle fibers). We found a direct correlation between muscle atrophy and fatty infiltration and whether the repair did or did not hold. That has evolved as a real factor as to whether the rotator cuff should be repaired; it also has led to more preop patient counseling where we emphasize setting proper expectations of surgery."

His time in the lab now is dedicated to something that will enhance cartilage healing...cellular repair. "I am working with ProChon Biotech, an Israeli company, on a phase II FDA approved clinical trial (I have no financial interest in the project). ProChon's technology puts cells into a biologic scaffold and then we implant that into a defect in the knee. The idea is that you're not putting the cells into a hole and hoping to create a cartilage base over time...you're putting them into a 3-dimensional structure that the body can accept and convert into cartilage. The product, known as Biocart, incorporates into the scaffold a fibroblast derived growth factor. That, in turn, allows the patient to grow new cells in their own blood, a process supported by the fibroblast platform. This technology grows cells at a much faster rate; also critical is that this medium potentiates healthier cells to grow preferentially."

He continues, "ProChon has also developed a biologic sponge that is a combination of fibrin and Hyaluronate. The sponge is a latticework with micropores so the cells get distributed throughout the sponge in a 3D fashion...then each cell begins creating an extracellular matrix. The product's stickiness means that it adheres itself to the defect; it's also very easy to manipulate (push around, snip with scissors, etc.)."

Such advanced technology wasn't available on his recent mission to Haiti, however. There, it was low tech, save limbs, save lives. "The head of the ICU at Mt. Sinai is Dr. Ernest Benjamin, who is originally from Haiti. He went down right away, then called the Mt. Sinai administration and told them of the chaos 'on the ground.' The administration sent out an email asking for assistance and 70 healthcare providers and logistics personnel responded 'yes.'"

"We were glad to be under the auspices of the seasoned folks at Partners in Health because, when we arrived, we found that the hospital in Port-au-Prince was completely disorganized. Loaded with 2,500 lbs of supplies we were met with no running water, occasional electricity and no way to sterilize equipment. We settled on a policy of using as few instruments as possible to minimize the danger of injury. I recall one patient with a dislocated hip...every time we put it back in place, unless we kept it abducted it would fall out again. Normally you'd have a splint or brace, but we had to make do with two short leg casts and a broom stick. We took a broom, cut the handle, and incorporated that with the plaster into the casts. Every day we saw situations that were life threatening, something unusual in the world of orthopedics."

Whether returning from his Upper East Side practice or Port-au-Prince, Dr. Gladstone has a loving family to welcome him. "My wife Kate and I have two children who adore our family trips. I am so pleased the kids have a mother who dedicates her time to helping others. Kate manages programs in Africa for Malaria No More, a wonderful non-profit organization that saves lives every day. On the less serious, stress relieving side of things, our family enjoys hitting the ski slopes together and decompressing."

Dr. James Gladstone...embracing the global challenges and rewards of healing with both the heart and the mind.

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