

John Jones Surgical Society NEWSLETTER

Alumni News of the NewYork-Presbyterian/Columbia Department of Surgery



Letter from the President

José G. Guillem, MD

Dear Colleagues,

It is my distinct honor and pleasure to write to you as President of the John Jones Surgical Society. It is an exciting time for our Society as we continue to attract new members and harness further enthusiasm and momentum. I would first of all like to thank Dr. Steve Libutti for his past efforts and hard work as President of the JJSS; Dr. James Chandler for his many years as Editor of the JJSS Newsletter and Dr. James Lee as current Recorder and Editor of our Newsletter.

This Society was established with the purpose to “preserve the history of the Department of Surgery and to provide a vehicle for the alumni to maintain contact with each other and the Department. It is anticipated that resources and ideas will be shared and the continued excellence of the residency program ensured.” Under the leadership of past Presidents, Drs. Kenneth A. Forde and Steve Libutti, great strides were made toward this end with the establishment of a robust Annual JJSS Spring Meeting, the establishment of our Newsletter and the creation of the John Jones Research Fellowship. I look forward to extending their efforts and exploring means for increasing our membership and funding opportunities to assure the quality of our Annual Spring Meeting as well as the John Jones Research Fellowship Award.

We last gathered this past Fall during the Annual John Jones Surgical Society Reception in Washington in conjunction with the Annual Meeting of the American College of Surgeons. It was a well attended event with old and new members, current residents, potential JJSS candidates, and department faculty including Department Chairman, Dr. Craig Smith. A good time was had by all as we shared the usual war stories from our surgical training years,



José G. Guillem

new developments in our lives and rekindled old friendships while making new ones.

We also had an opportunity to further plan for our 14th Annual John Jones Surgical Society Spring Meeting. Led by our seasoned and energetic statesman, Dr. James Chandler and joined by fellow Program Committee members,

Drs. Spencer Amory, Jeff Cohen and Karen Horvath, along with the assistance of Trisha Hargaden and most recently Christine Rein, we have succeeded in putting together an exciting program which aims to honor Dr. Kenneth Forde, Co-Founder and First President of the JJSS, for his remarkable career and contributions as a mentor, teacher and pioneer in the world of surgery.

We are delighted by the outpour of genuine enthusiasm by all the invited speakers and confirmed attendees, who look forward to participating in a meeting, which brings together friends, mentees and colleagues of Dr. Forde from various disciplines, who will share their perspectives on the “state of the art” and challenges, opportunities and future directions in their field of expertise. I am confident that we are in for a special treat of wonderful lectures that will depict the result of hard work, dedication, perseverance and the passionate pursuit of a focused goal; coincidentally, some of the unique traits embodied by our honoree, Dr. Kenneth Forde.

I look forward to seeing you on Friday, June 20, during the 14th John Jones Surgical Society Spring Meeting. Please make plans to also attend the reception and dinner to follow at the Harmonie Club. We anticipate a great turnout and I encourage you to notify fellow members of your graduating class. ■

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A Great Foundation

Steven K. Libutti, MD

It is hard to believe that it was 23 years ago this past July that I began my surgical internship. I had just finished medical school at P&S and I was extremely excited to don my short white coat, powder blue scrubs and orange rubber clogs (the clogs, I believe, were made popular by Mark Galantowicz). On the first day, Tom King met with all the interns in the Ferrer Conference Room. As I remember it, we all sat around a large wooden table and he asked us each to introduce ourselves and tell the group what we planned to be doing in 20 years.

I knew this question was coming. I had heard as a P&S student the folklore associated with answers given by the interns before me. For example, the rumor was that when asked this question, a new intern named Mehmet Oz responded, "I will be the Senator from Delaware". I have never asked Mehmet if this is true, preferring instead to hope it was as it makes for a great anecdote (and is probably still a real possibility!). I can't remember what my exact answer was, but I imagine it would have involved being a cardiothoracic surgeon and doing heart transplants. I, like most P&S students of my era interested in surgery, couldn't help but be captivated by what was going on in cardiac surgery at that time. Columbia seemed to be the epicenter of cardiothoracic advances and the cardiac surgeons (attendings and fellows) were larger than life characters. This, however, is not how things would play out as my interests quickly changed during that internship year.

While I learned a tremendous amount that year about caring for patients (as well as exactly how long I could stay awake continuously without seeing cob webs: 60 hours), it was the friendships that I made with my fellow residents and my attendings that were most impactful. I learned so much from all of them. Those 5 years were incredibly hard, amazingly rewarding and more fun than can be recounted here. Let's just say you haven't lived until you watch Mike Argenziano translate your EVERY word in Spanish to an intoxicated gentleman explaining exactly why his friends had pushed him out of a moving car. While dancing for 45. During my residency, as is often the case, major events occurred in my personal life as well. I got married to my amazing wife Mary (1990), my daughters Christina (1992) and Melissa (1995) were born, and sadly my father passed away (1993). Through all these events, I always knew I could count on my fellow residents for support.

Following residency, we moved to Maryland. I began a fellowship in surgical oncology at the National Cancer Institute in 1995 with the plan to spend two years there and then return to New York. The fellowship started out



Steven K. Libutti
General Surgery Residency
1990-1995

slow as nothing could compare to the pace of my Chief year at Columbia. However, I was soon doing amazing cases and starting a lab of my own. My clinical preparation and surgical skills from my time as a Columbia resident served me well as I was asked by Steve Rosenberg to join the Senior Staff of the Surgery Branch in 1996. The next 14 years were incredible. I had the opportunity to conduct clinical research trials helping to establish surgical techniques such as isolated liver perfusion, isolated limb perfusion and cytoreduction and peritoneal chemotherapy as new options for treating patients with previously considered non operative disease. My work in the laboratory led to several translational clinical trials using gene therapy to treat rectal cancer, nanomedicines to

treat systemic cancer and new combinations of targeted therapies to treat unresectable melanoma. Along the way my son Michael was born (2002).

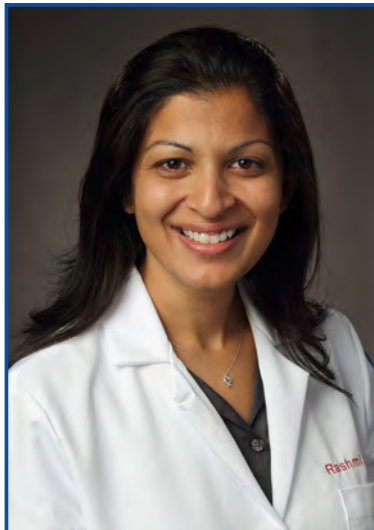
During my time at NCI, my surgical oncology practice and laboratory research became focused more and more on the field of endocrine oncology. These interests have continued and my practice now is primarily directed to the management of neuroendocrine tumors of the pancreas, GI tract and liver, as well as tumors of the adrenal glands, thyroid and parathyroid. My laboratory is focused on recreating inherited tumor syndromes in mouse models to help develop new cancer therapies.

In 2008, I received a call from fellow Columbia alum Rob Michler. Rob had recently moved from Ohio State to Albert Einstein and Montefiore as the Chair of Cardiothoracic Surgery and was about to become Chairman of Surgery. As the line in the movie goes, he made me an offer I couldn't refuse. Since 2009 I have been Vice Chairman of Surgery and Director of the Center for Cancer Care at Montefiore Medical Center and Albert Einstein College of Medicine. I have been reunited with my friends from my days at Columbia. In addition to Rob, I work with fellow Columbians Sam Weinstein, Evan Lipsitz, Joe DeRose, Danny Goldstein, David D'Alessandro and Tyr Wilbanks. It feels like I never left! I have also been reunited with my friends who are still at Columbia (including John Chabot who used to take great pride in running me ragged on the wards, but now has to settle for running me around the squash court). I am grateful for the time I spent as a resident at Presbyterian Hospital, to the attendings and residents who taught me so much and for the lasting friendships I made. I am also very proud to have served as the President of the John Jones Surgical Society for the past 3 years. To the current residents at Columbia; enjoy every minute, it goes by too fast. ■

Lessons Learned

Rashmi Roy, MD

When I was first asked to write this update about myself, I was truly shocked because I would not have thought of myself as a “person of interest”. The reason for this is that I was a transplant, and only spent the last 2 years of my residency at Columbia. The very fact that I was asked to write this testimonial was confirmation of the strong sense of family that is felt when doing a residency at Columbia Presbyterian Medical Center. It has been 3 years since I graduated, and in that time I finished an Endocrine Surgery fellowship at Johns Hopkins Hospital and moved to Princeton, NJ to start my practice. I am one of six surgeons in a multidisciplinary group at University Medical Center of Princeton, where we have residents from



Rashmi Roy

UMDNJ. This allows for a perfect mix of private practice and academics. I currently perform general surgery and endocrine surgery, and will soon be transitioning to mostly endocrine surgery. Now that I have been an attending for 2 years, I am able to reflect back and understand what Columbia has provided for me and the plethora of ways it has benefited me.

CAMARADERIE

Camaraderie was definitely the first thing that I noticed. In July 2008, I started my 4th year of residency at Overlook and then forged ahead into the “big house” at Milstein. My fellow senior residents welcomed me with open arms, and my junior residents immediately respected me even though they had no idea who I was. We were all each other’s support system through the thick of it all. This sense of togetherness extended up the proverbial ladder to the attending level as well. One attending that exemplified this was Dr. Beth Schrope. I remember many late nights when she came to the rescue of my fellow chief residents and me, even when she was not on call. Dr. Valeria Simone, although a new addition when I was at Columbia, also put her armor on and enthusiastically went to battle with the residents. This is something that I try to replicate for my residents on a daily basis. I want them to always feel comfortable coming to me in their time of need. There was also a certain responsibility, at Columbia, which the senior residents took over the juniors and a sense of obligation to teach the next generation. These are the values that were somehow instilled in us, not through words, but by example. Now as an attending, this is something that I have come to expect from my residents.

MENTORSHIP

Mentorship is another priceless entity that was shown to me through the actions of my senior residents as well as junior and senior attendings. During residency, Michael Kluger was my chief, and was the first to take me under his wing and show me the ropes of Columbia. He portrayed professionalism, thoroughness, and care with patients. He taught me the traits of an exemplary chief resident, and I have carried that with me till today. Dr. James Lee embodies the word mentor for me. After expressing my interest in endocrine surgery just one time, he basically whisked me away into the field and

is largely the reason for who I am today. These are the types of physician-teachers that Columbia produces. This is the kind of enthusiasm that I try to replicate when my residents express their future aspirations.

COMPASSION

Compassion is a trait that is innate and cannot fully be learned. Dr. John Chabot showed me everyday how to be compassionate with patients and their families. His bedside manner with patients postoperatively was truly a sight to see. Pancreatic cancer or unresectable tumor were not the words that any patient or family wanted to hear. Somehow, Dr. Chabot was able to convey the graveness of a patient’s situation while still outlining a glimmer of light in some aspect of their life. His compassion extended into the operating room as well. Regardless of the heroic measures that he would be asked to take by a patient or their family, the dictum of “do no harm” was always in the forefront. This compassion dovetailed with the calmness that Dr. Chabot depicted in the operating room. There were some situations where I didn’t think the hemorrhaging would stop, but somehow he was able to get hemostasis (all the while making me think that I was actually the one that fixed it). Now as an attending, there have been times in the operating room that have been scary, and the calmness that was taught to me during my residency is what allows me to prevail. A good surgeon is not someone who yells at everyone in the room, but someone who can get through a difficult situation without getting flustered.

PRECISION

Medicine can sometimes be practiced within the gray zone, but surgery is black and white. No one taught me the precision of surgical skill more than Dr. Paul Starker. The efficiency of an operation was allowed because no move was ever wasted. Every stitch or retractor was placed in order to set up the next step of the procedure. Being an endocrine surgeon and operating within the confines of a 3 cm incision, this was especially helpful to me. When taking my residents through cases, I often will remember my days back at Overlook and hear Dr. Starker’s voice in my head. This is a skill that has carried me through fellowship and allowed me to impress even Dr. John Cameron during my 2-month rotation with him at Johns Hopkins. Now as an attending, it is this tool that makes the difficult cases easier.

PATIENCE

Whoever came up with the saying that “patience is a virtue” was definitely spot on. Those of you who know me can attest to the fact that I am not the most patient person on the planet. As a new, eager, and well-trained surgeon, I was ready to start my practice with an immediate volume of 300 endocrine cases a year. Little did I know that the referral patterns of a smaller town like Princeton were very set in their ways. I joined a practice where the senior surgeon was the endocrine surgeon for Princeton and the surrounding areas. So, I have had to build up my practice slowly, and I have learned

Rashmi Roy - Continued from page 3

the traits that are needed in order to successfully build my practice. Availability is key, no matter what part of the day or week it is. Good results on the patients that do get referred to you will only inspire the referring doctor to send you more cases. Being amicable and communicating with a smile will get you further than you think. Lastly be patient and try to have people in your corner to reiterate that patience truly is a virtue. Drs. Chabot, Allendorf, and Lee have been saying this to me for 2 years now, and they were right. It is all in the process of working out, and I will soon be one of the busiest endocrine surgeons in New Jersey.

BALANCE

Everything should be done in moderation. This is not something that rings true when we are doing our residency. I remember sleeping as much as I could on those rare days post call. I would eat as much as I could before a case because I didn't know how long the case would last, or when the next ED consult would be, or when the next trauma case would arrive. If I made it to the gym, I would stay for an excessive period of time because there was little chance I would be able to exercise later in that same week. This is not the way to live our lives. Now that I have had a couple years to adjust to normalcy as an attending, balance is what allows life to fully be

experienced. This even distribution extends into relationships as well and allows for a better quality of life. When I moved to Princeton, I did not have any family or friends in the area. However, over time, I have been able to solidify a core support network in the area that has only enhanced my sense of self along with my career. I have always emphasized that quality of life is more important to me than quantity. This is something that I took into consideration when choosing a career in private practice versus academics. It still continues to be a mantra that I live by when making decisions in my private practice group. Most of us have spent a large part of our lives becoming surgeons but being a surgeon is not the only thing in life. It is an integral part of who we are, but our experiences and the people with whom we surround ourselves, play the ultimate role.

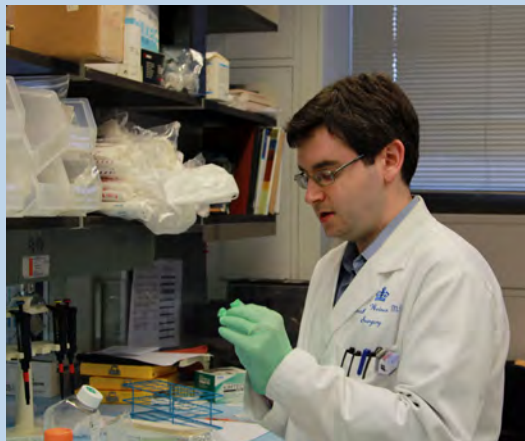
I have accomplished the goals that I have set for myself, and Columbia has played a huge role in allowing me to do that. The lessons I learned at CUMC, experiences I've had, and people whom I have been fortunate enough to meet, have made a palpable impact on my life. Now it is time to set new goals, and continue my personal path toward health, happiness, success, and longevity. ■

John Jones Research Fellow (2013 – 2014) Joshua Weiner, MD

Joshua Weiner was selected as the 2nd John Jones Research Fellow in May 2013. Josh has completed three years of general surgery residency at Columbia and is now in the first of two years in the lab. His research focuses on 1) regulatory T cell-mediated B cell tolerance across the xenogeneic barrier (the subject of the John Jones Award) with Dr. Adam Griese-mer, 2) changes in the balance of donor versus recipient leukocyte populations in the gut after intestinal transplantation with Drs. Megan Sykes and Tomoaki Kato, and 3) the relationship of genetic similarities between donor and recipient in liver transplantation on recurrence of autoimmune liver disease with Dr. Jean Emond.

Before residency at Columbia, Josh graduated Cum laude from the Yale School of Medicine, during which time he was a Howard Hughes Research Scholar in the Transplantation Biology Research Center at Massachusetts General Hospital under Dr. David Sachs. He previously graduated Magna cum laude from Harvard College with a degree in Government. In college, he was a White House Intern, served on the Executive Board of the Institute of Politics, and ran both the political speaker series and the political humor series.

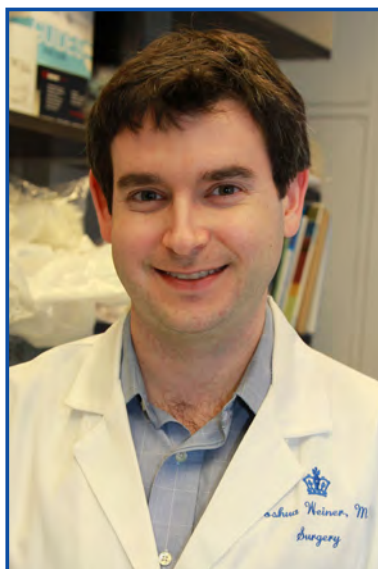
Outside of work, Josh enjoys playing music (violin, piano, drums, guitar), political organizing, writing, skiing, and cooking with his wife, a dermatology resident. ■



The Columbia Summer Research Institute

Joshua Weiner, MD

One of the best resources available to Columbia clinicians is also one of the most expensive. The Columbia Summer Research Institute condenses an entire semester of graduate-level biostatistics, epidemiology, decision analysis, and research methods into a 5-week intensive course. The program is tailored for busy clinicians who seek to gain familiarity with the tools necessary for clinical research. However, taking part in this program requires two important things: 1) the guarantee of 5 weeks of protected time and 2) funding. I was extremely fortunate that the Department of Surgery provided me with both and that I was able to take part in the 2013 CSRI program.



Joshua Weiner

Like many clinicians, I previously had a rudimentary working knowledge about statistics. I knew enough to answer basic ABSITE questions, recognize the names of a few statistical tests, and, most importantly, have a healthy respect for the all-important p value. Anything with a p value less than 0.05 was a BIG DEAL!

However, as I prepared to go into the lab for 2 years (generously sponsored by Dr. Hardy's T32 grant), it quickly became apparent that this would not be enough. As I developed my basic science projects with Drs. Adam Griesemer and Megan Sykes and my clinical research projects with Dr. Jean Emond, it was clear that this rudimentary knowledge would not do. Sure, I knew that I had to achieve a p value of less than 0.05, but I had no idea how to get there. How would I design the experiment? Which tests would I use? What power and sample size did I need? What is an ANOVA, and did I need a telescope to see one?

This is where CSRI came in. CSRI focuses on science and math, but what it really taught me was linguistics. Specifically, I learned the vocabulary, syntax, and grammar to speak the language of clinical research. These skills have been essential in preparing me to transition to my next step as a physician-scientist.

CSRI truly takes its students back to school, right down to the logo-emblazoned back packs and afternoon snacks. My deskmate and study partner, who introduced herself as an associate professor of cardiology at Cornell, was soon raising her hand asking "will there be a test on this," and

"can I have partial credit on this extra credit question?"

Besides reverting us all to our type A high school personalities, CSRI also finds a way to deliver the most high-yield analytic skills in a tailored and efficient way to a group of busy clinicians. A bullpen of some of Columbia's best and most experienced biostatistics and epidemiologic educators (including Chair of biostatistics Roger Vaughan and Dean Goldman himself) expertly explained a whole semester of concepts, making them crystal clear, if not always easy. In parallel, experienced NIH investigators gave us an inside look at the grant writing and reviewing process and mentored us through the process of writing our own grants in the space of just a few

weeks. Mine has served as a roadmap for my ongoing clinical project with Dr. Emond and contains the rationale, the operationalization of variables, the statistical tests, and the power calculations that I continue to use for this project. On a broader scale, the skills I learned have allowed me to be a better collaborator and consumer of scientific information. Now I no longer wait to hear that the p value is less than 0.05 so I can nod approvingly, but I ask whether the correct variables were analyzed, whether the correct tests were used, and whether the significant p value means anything at all if the outcomes are not valid or meaningful.

As with most areas in science, learning more about biostatistics and epidemiology has really taught me less about what I know than about the large universe of things I do not know, things about which I need to learn more. However, it has been a good start and has opened the doors to future learning. My new knowledge has already improved my ability to be a physician-scientist, and CSRI provides the resources for ongoing learning. Finally, the relationships formed with my classmates (my peers at Columbia seeking to enter the ranks of physician-scientists) and my teachers (who offer their continued mentorship long after the course has finished) will continue to be important long into the future.

I want to thank the Department of Surgery for so generously funding my participation in CSRI, and I hope that others will be so fortunate in future years. It is more than an investment in each of us individually; it is truly an investment in the future of our department and our institution. ■

Reprint

Breakthrough: Arthur Blakemore and Arthur Voorhees, Jr

Sheldon Marvin Levin, MD

Department of Surgery, University of California, San Francisco, California

In 1912, the Nobel Prize in medicine was given to Alexis Carrel, recognizing his research achievements in operations on blood vessels and the transplantation of organs. He was not a clinical surgeon and did not take care of patients. Benefits to mankind were postponed 5 decades. One challenge he could not solve was to replace the aorta with a functioning graft.

A suitable graft material was finally discovered in the early 1950s by Dr. Arthur Blakemore (Fig 1) and Dr. Arthur Voorhees (Fig 2), who successfully used Carrel's techniques in the experimental laboratory.

Their breakthrough allowed the bypassing of diseased aortic segments and, by so doing, the development of a new field, vascular surgery. Who were these men?

In 1936, 39-year-old Dr. Blakemore was brought to the surgical faculty of Columbia-Presbyterian Hospital in New York by Dr. Allen Whipple, Chief of Surgery. Whipple's main interests were diseases of the pancreas and liver. He performed the first removal of cancer of the pancreas, an operation still referred to as "A Whipple." Blakemore was interested in cirrhosis of the liver and its deadly result, bleeding esophageal varices due to portal hypertension. He performed portacaval shunts to relieve the hemorrhage.¹ It was a tedious operation, with high mortality, especially when carried out when the patient was actively bleeding. He developed an ingenious triple-lumen esophageal balloon, which tamponaded the bleeding and could postpone the operation to a safer time.²

The Blakemore balloon was widely used in centers that dared tackle the complex disease. Blakemore was often referred patients with arterial problems. Severe ischemia of the legs had no effective treatment, and patients usually endured major leg amputations. He injected vasodilator drugs into the femoral arteries in a vain attempt to improve the outcome. He performed lumbar sympathetic nerve blocks, and if the limb warmed up, did lumbar sympathectomies. These were occasionally helpful. Patients with abdominal aortic aneurysms were particularly frustrating. The aneurysms invariably got larger until they ruptured, and the patients died. Blakemore tried implanting lengths of wire into aneurysms at open operations, with the hope that the blood inside the aneurysm would slowly clot, allowing time for



Dr. Arthur Blakemore



Dr. Arthur Voorhees

collateral circulation to develop. Hopefully, the limbs would survive, and the aneurysm would not rupture.³ The procedure proved to be a disappointment.

Blakemore was from Virginia, a tall and heavy-set man, who spoke with a slow drawl and moved slowly. When he was 19, an accident resulted in amputation of his right index finger at the proximal joint. In spite of the handicap, he mastered fine surgical technique. He maintained his composure exceptionally well, even when confronted with severe hemorrhage. He told me, "The only time I worry about bleedin' is when I can hear it." He was extremely patient as a teacher in the operating room. If a patient could not afford his surgical fee, the patient was placed on the clinical service, and he would assist the chief resident to perform the operation. This would take more time than his average, but he never became restless in the process.

Arthur Voorhees began his surgical internship at Columbia-Presbyterian in 1946. He was a Quaker; mild, soft-spoken, cool, and persistent. A year later, he was drafted by the army and served through 1948 in San Antonio, Texas. In 1949, he was back at Columbia to resume his residency. He had a close relationship with Dr.

Blakemore and worked in his laboratory. On a project to create a new mitral valve, a suture was inadvertently left inside the ventricle. When the animal was sacrificed, the thread was coated with a slick layer resembling endothelium. This surprising observation made Voorhees wonder whether a fabric in the bloodstream might develop a similar coating.

At that time, Dr. James Blunt, an orthopedic resident at Columbia, became the recipient of a bolt of Vinyon-N cloth that failed to take a dye. Blunt tried using the material as a tendon replacement but was unsuccessful. He offered the material to Voorhees.

Using his wife's sewing machine, Voorhees constructed a tube of the Vinyon, which resembled silk. It was difficult to sew, and the ends of the tubes were folded back 3 mm for better purchase by the needle. Dogs that were to be euthanized by the pound were anesthetized and had segments of their aortas replaced by Vinyon. Early results were promising. The grafts stayed open!⁴

On July 1, 1950, I began a surgical internship at Columbia-Presbyterian. During the first weeks, I was assigned to

“Breakthrough”–Continued from page 6

second-assist at a portacaval shunt by Dr. Blakemore. It started at 0800 hours and ended at 2200 hours. He was doing these operations about one every other week. One by one, my running mates requested not to be assigned to these long operations because of their leg swelling or back ache. I gradually became a regular assistant to Dr Blakemore.

My second year was given to research. I spoke with Dr Blakemore and Dr Voorhees about joining their team. Dr Jaretzki, a third-year resident, was already working with them, but there was room for me. Dr Voorhees was incredibly patient and spent a month teaching me how to sew in the Vinyon aortic grafts. Sewing arteries to Vinyon required painstaking technique. It was a marvelous learning experience, and I was finally able to operate on my own.

In 1951, an aorta bank was opened in New York, where human aortas were preserved and stored for use in surgery. That year, Dr Dubost, in Paris, reported the first successful replacement of an aortic aneurysm, utilizing such a graft.⁵

Late one night in February 1953, during my second year of residency, I was called to the emergency room. An elderly man was admitted with severe back pain. He had a pulsating mass in the abdomen and low blood pressure. The diagnosis was obvious. The patient had a ruptured abdominal aortic aneurysm. The chief resident was Dr Voorhees, and the professor on call was Dr Blakemore. It was serendipity, a perfect combination for the task ahead. I paged Dr Voorhees and placed a large bore needle for fluid replacement and called the blood bank. Dr Voorhees came quickly, confirmed my diagnosis and the need for immediate surgery. He called Dr Blakemore, the operating room, and the aorta bank.

In 30 minutes, the patient was in the operating room, with the team in place. The procedure was begun, and the aorta was clamped, slowing most of the bleeding. The aneurysm was large and extended into the iliac arteries. A nurse appeared and said, “I have bad news. The aorta bank just called. There isn’t an aorta available in New York City.” There was a sudden pause as we turned to Dr Blakemore. With his usual calm, he drawled, “Well, we’ll just have to make one of our own.”

Voorhees turned to me and said, “Come with me. We’ll have to make a bifurcation graft, not a straight one.” All our work in the laboratory involved constructing tube grafts. We had never made a forking graft. We both broke scrub, ran through the hall, entered the door connecting the hospital building to the medical school building, and entered the surgical research laboratory. It was dark and eerie, 0200 hours, and we couldn’t find the light switch. The wind was shaking the windows, and we could hear the laboratory mice rattling their cages. We turned on the lights, went to the corner where the sewing machine was located, and put down two sheets of Vinyon. We sketched an upside down “Y” and sewed three lines, one in the crotch. Redundant Vinyon was removed, and we raced back to the operating area. The graft was given to the float nurse, who flashed it, and we scrubbed back in. Meanwhile, Dr Blakemore was working to isolate the aneurysm. Finally, the aneurysm was removed, and the graft was sewn in place. The distal artery clamps were removed first, allowing blood to fill the graft. There was some bleeding from the graft, and the clamps were closed again. After 5 minutes, the distal clamps were reopened, and there was no more bleeding from the graft.

Finally, the upper clamp was slowly opened, and pulsatile flow was resumed downstream. The aorta had been clamped for over 3 hours. When all clamps were removed, there was blood oozing from everywhere, except the graft. The graft worked well. Weak groin pulses were present. The abdomen was hurriedly closed. It was the first time a synthetic graft was used to replace the human aorta.

Dr Blakemore was so impressed with the performance of the Vinyon graft that from then on, it was his conduit of choice.

It was fortunate that synthetic grafts became available. The human aortic grafts did not fare well. After 1 or 2 years they degenerated, became aneurysmal, and had to be replaced. Aorta banks were closed.

Advances in textile manufacture led to the creation of Dacron grafts, which were easier to sew than Vinyon. Dacron grafts could be prepared in different sizes and were always available.

Hundreds of thousands of lives, limbs, and brains have been saved throughout the world by the development of vascular surgery, the field opened up by the pioneers, Dr Arthur Voorhees and Dr Arthur Blakemore.

Neither of these men sought recognition. It upset me in subsequent years to learn that surgical residents and vascular fellows knew little of the development of arterial grafts. When I asked who made the significant breakthrough to begin it all, many mentioned the name of a flamboyant Texan. I decided to clarify the issue in my presidential address to the Society for Clinical Vascular Surgery in 1987.⁶ In preparation for writing the paper late in 1986, I spoke with Dr Voorhees by phone and told him I would describe details of the fateful evening of the first clinical use of a synthetic aortic graft. He mildly asked why I wanted to write the paper, and I told him to emphasize the importance of his and Dr Blakemore’s achievement. I rhapsodized on the saving of the patient’s life. He interjected, “Don’t you remember? The patient died!”

One’s memory can be faulty. I had not remembered. For more than 30 years, I had told my residents and students the story of the exciting evening and was frequently asked how the patient did after the operation. I answered that he survived. Voorhees reminded me the patient lived only 12 hours postoperatively, dying of shock and a bleeding problem. He reminded me that 3 weeks later he and I assisted Dr Blakemore to successfully replace a patient’s aortic aneurysm.

After completing my surgical residency in 1956, I spent the following year as a fellow in Europe, working with surgeons who had achieved vascular “firsts.” Felix Eastcott in London had performed the first carotid artery reconstruction to prevent strokes.⁷ In Paris, I worked with Charles Dubost, who had done the first aortic aneurysm replacement, with a homograft. Also in Paris, I worked with Jean Kunlin,⁸ who used a reversed saphenous vein as a femoral popliteal artery bypass for the first time. In Stockholm, I worked with Clarence Crafoord, who had done the first repair of coarctation of the aorta.⁹

In January 1958, I joined the surgical faculty of the University of California School of Medicine in San Francisco. In a few months, I made changes in techniques of two operations. Aortic aneurysms did not have to be totally removed. It was

“Breakthrough”–Continued on page 8

“Breakthrough” – Continued from page 7

possible to leave the back wall of the aneurysm stuck to the vena cava, avoiding hazardous and unnecessary dissection, saving time and need for blood transfusions. I performed portacaval shunts through abdominal incisions, rather than through thoracoabdominal incisions, which were used by Dr Blakemore. This reduced the operating time by half, and, with use of an electrocoagulating unit, the Bovie, the operation could be done in 3 hours rather than 14 hours.

The University of California at San Francisco had an excellent vascular surgery unit, headed by Dr Jack Wylie, who developed the endarterectomy technique of peeling away localized plaque formations. This became the preferred method of carotid artery procedures. In 1960, Dr Wylie created the first vascular surgery fellowship in the country.

It was a privilege for me to be a member of the team of my mentors, Drs Voorhees and Blakemore, an experience that shaped my professional life. Pioneers of vascular surgery, both men died at age 70. I honor their memory. ■

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Doloras and Sheldon Levin

Addendum

Dr. Sheldon Levin was a surgical resident at PH from July 1950 – October, 1956

He recalls, “My residency at Presbyterian Hospital was a superb chapter in my life”.

Dr. Humphries and other professors were outstanding, and what I learned from my senior residents was almost equally memorable. I look back on that chapter in my life with warmth and great appreciation. The chief residents were terrific, and I shall never forget the likes of Drs. Herter, Jaretzki and Larsen. (They were class-mates at Harvard.)”

Part of his experience is described in two articles he wrote that were published in the *Journal of Vascular Surgery* in 2012. This article “*Breakthrough*”, honoring Drs. Voorhees and Blakemore and a second entitled “*The First Cardiac Catheter*”, involving the work of Drs. Cournand and Richards of Columbia, who won the Nobel Prize in 1956. Dr. Levin was on their service in his second year. The latter article will be reprinted in a future edition of the e-newsletter.

Upon leaving PH he did a year’s fellowship in Europe and then returned to California. In 1958 he joined the faculty of the University of California med school in San Francisco (UCSF) and has been in academic practice and teaching ever since.

He states: “I’ve been extremely lucky so far, and at 92 still see patients one day a week and teach medical students one day a week. I love it.” ■

What am I Doing Now

Robert Dabal, MD

Since leaving Columbia in 2000, it has been an eventful 13 years for me. After finishing my general surgery training, I moved to Seattle and did a cardiothoracic surgery residency with an extra year of basic science research. Following that, I spent a year at Denver Children's doing a congenital cardiovascular fellowship. And then, just to make it a full decade of training, I went to Boston Children's for a final year of congenital training.

My first job was with the University of Florida in Jacksonville at Wolfson Children's Hospital. It was a great first job because I was in a situation where I had a very helpful senior partner who allowed me to do all of the complex cases with his assistance. Five years ago, I moved to Birmingham, Alabama to take a position with the University of Alabama at Birmingham.

The job in Birmingham has been outstanding. Shortly after arriving here, I began to help with the planning of a new Children's Hospital which opened in August of 2012. Our Heart Center, which takes up the whole 4th floor of our hospital, opened in October of 2013. My practice encompasses the whole field of congenital heart surgery, although the majority of my focus is in the area of neonatal heart surgery. While clinically very busy, I am trying to be more active these days in the areas of clinical research and medical education.

On a personal level, my home life has become markedly enhanced over the last decade. I met my beautiful wife Jamie in Florida about three months after I finished training, which was probably good for her and me. We married in 2007, and her Alabama roots made the transition to my new job in 2008 that much easier for both of us. Given my advanced paternal age, we fast-tracked in the kid department with additions in 2009, 2011 and this year. Eleanor, our oldest, is 4 ½ and destined to be a doctor. She insists she wants to be a pediatrician and not a surgeon like her Dad. Caroline, our middle, is 2 ½ and is the family comedian. Our newest addition Alex is almost 6 months old and has made our lives so hectic but in the best way possible.

When I think back on my Columbia years, it is always with the best memories. I hope that today's residents are having as much fun as we did. While we worked really hard, we played hard too. I often think about eating outside on the roof by the resident's lounge in the old part of the hospital. I think about how caring Marlene was and is with all of us, the best "mother" a resident could have had away from home. I think about the camaraderie of shared meals on call – the torture of deciding on a place, gathering orders, and collecting money and the fun of hanging out and eating together as a group. I think about the rare nights when things were quiet, and we could go for a group dinner at Coogan's. I think about how much fun most of the attendings were to work with – Benvenisty, Todd, Nowygrod, Chabot, LoGerfo, Geller, etc. I laugh when I think about postpartum intern Beth Schrope packing her own open wound, about David Morales' crazy red clogs, about Olivia Hutchinson with her feet propped up in the lounge 9 months pregnant, about Raj Flores' big gold chains and so much more.

After eight years in practice, I think that the most valuable thing that I learned from my Columbia years was an attitude - the attitude that we are all in this together, the attitude that we are a team. I have seen our program at UAB grow tremendously over the last five years, and I'd like to think that some of the growth has been made possible by my Columbia attitude. I learned at Columbia that if you treat people with respect they will work that much harder for you. I learned that if you make work fun it makes the difficult times that much easier to deal with. I learned that if you make work fun you can accomplish much more than would be otherwise possible. I learned that even though things may not always go your way you can overcome many obstacles with hard work and perseverance. I learned that a friend from Columbia is a friend for life.

Thanks for the chance to share this with you. I'd love to hear from any of you – rdabal@uab.edu or rdabal@yahoo.com. ■



Robert Dabal and Family

A Junior Faculty Member's Journey

Adam Griesemer, MD

Adam Griesemer is the recipient of the 2013 Kenneth A. Forde, MD, Junior Faculty Award.

I arrived at Columbia-Presbyterian in 2003 as a General Surgery intern. At that time, I had the distinct pleasure of interacting with Dr. Forde on the colorectal surgery service and was one of the last residents to participate in "Forde Rounds." In 2010, I had the pleasure of writing a historical paper about John Jones with Drs. Forde, Widmann and Hardy. Having worked directly with Dr. Forde, I am extremely honored to have received an award sponsored and named after such a venerated member of the Columbia Surgery Family.



Adam Griesemer

Following completion of my surgery residency at Columbia, where I served as a Chief Resident in General Surgery in 2010, I served as a Fellow in Abdominal Organ Transplantation at Columbia-Presbyterian. I am currently an Assistant Professor of Surgery at Columbia on the pediatric liver transplant service and a Principal Investigator in the Columbia Center of Translational Immunology (CCTI) in charge of large animal xenotransplantation studies. My research projects focus on induction immunologic tolerance to organ transplants and on finding solutions to the shortage of donor organs.

My research interests grew from a long-standing interest in transplantation tolerance and xenotransplantation. This interest began during a year spent as a research technologist at the Transplantation Biology Research Center (TBRC) at Massachusetts General Hospital in 1998. During this year, I performed studies investigating the potential for mixed chimerism (the presence of both donor and recipient blood cells in the circulation following bone marrow transplantation) to induce tolerance to donor solid organ transplants in miniature swine. I was also exposed to the ongoing studies in xenotransplantation that were being performed in the lab. In particular, I became very excited about the possibility of inducing tolerance to xenografts, an achievement that would simultaneously solve two of the major issues in the field of transplantation. Accordingly, after completing my second year of residency at Columbia, I returned to the TBRC to perform research in transplantation immunology under the supervision of Drs. David Sachs, Kazuhiko Yamada and Megan Sykes. This decision was strongly influenced by the recent development of genetically modified miniature swine that were specifically produced for xenotransplantation of swine organs into humans. The major obstacle to xenotransplantation at the time was the presence of anti-swine antibodies in human serum (and Old-World monkeys) that severely limited survival of swine organs transplanted to nonhuman primates. A large percentage of these antibodies reacted to a single antigen, -galactose-1,3-galactose (Gal), present on swine cells. Due to a frame shift mutation, humans no longer possess a functional 1,3-galactosyltransferase gene and therefore do not express this antigen. It is thought that sensitization to

Gal positive bacteria in the gastrointestinal tract triggers the production of anti-Gal antibodies. In order to overcome this obstacle, Gal knockout swine that don't express Gal on the cell surface were generated via nuclear transfer for use in xenotransplantation experiments at the TBRC.

Using these Gal knockout swine, I investigated the potential of tolerance induction to renal xenografts using two different strategies. The first involved transplantation of the swine thymus to baboon recipients. The thymus is the site of T cell maturation and deletion of self-reactive T cells. Transplantation of donor thymus tissue in conjunction with depletion of existing T cells would result in elimination of donor-reactive

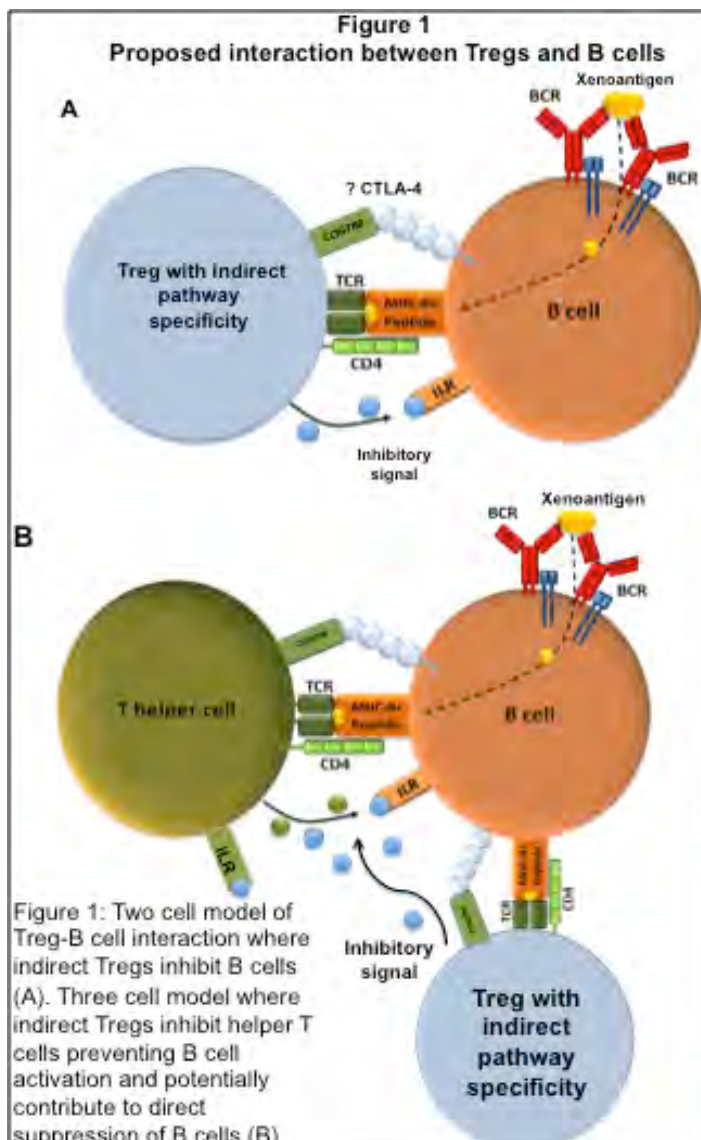
T cells and maturation of new T cells in the donor thymus. In the thymus, developing T cells would encounter donor antigens. Any T cell clones that react to these donor antigens would undergo deletion, resulting in specific tolerance to donor antigens while maintaining immunity to foreign invaders. Using this strategy of combined Gal knockout swine thymus and kidney transplantation, I was able to demonstrate prolonged survival of swine kidneys in baboon recipients. I found evidence for normal baboon T cell development in the swine thymus—T cells that would then recognize swine proteins and sugars as "self"—and evidence for T cell tolerance in long-term survivors. Despite the elimination of anti-Gal antibodies as a source of rejection, all baboon recipients had low-levels of anti-swine antibodies that reacted to non-Gal swine antigens. Although the levels of these antibodies decreased in the recipients of Gal knockout thymus transplants, they were not completely eliminated. Thus, although T cell tolerance was developing, B cell tolerance was not induced. Therefore, for this strategy to become successful, an alternate therapy that targets antibody production will need to be applied.

The second strategy for tolerance induction that I investigated was xenogeneic mixed chimerism. In rodents, Drs. Megan Sykes and Yong-Guan Yang (now the Director of the CCTI and a PI in the CCTI, respectively) and others demonstrated that induction of xenogeneic mixed chimerism could be achieved. As in allogeneic models, xenogeneic mixed chimerism induces both T cell and B cell tolerance to donor solid organs. This is thought to result from donor antigen presenting cells migrating to the thymus and bone marrow where they present donor antigens to maturing T cells and B cells. In this context, donor-reactive T cells and B cells are deleted. Using bone marrow from Gal knockout swine, I was able to demonstrate stem cell engraftment in nonhuman primate recipients. However, swine blood cells were not detected in the peripheral blood. This low-level of engraftment was not sufficient to result in tolerance to co-transplanted renal xenografts. There are likely two major factors that prevent the survival of swine blood cells in the periphery produced from the stem cells in the bone marrow. First, Dr. Yang and colleagues demonstrated that swine cells lack expression of a critical marker

Adam Griesemer—continued from page 10

of self (CD47) that prevents human or primate macrophages from destroying them on contact. Second, the presence of anti-swine antibodies to non-Gal antigens likely accelerates their elimination in the circulation.

Currently, I am working on strategies to eliminate these two obstacles to developing mixed chimerism in a translational nonhuman primate model. First, Gal knockout swine that have been modified to express human CD47 have now been produced. Bone marrow and peripheral blood cells from these animals should be resistant to macrophage elimination. Second, I am investigating the ability of regulatory T cells to control antibody responses to swine antigens. In several allogeneic transplant models, regulatory T cells can control allogeneic responses and induce transplant tolerance. There is also evidence that regulatory T cells can suppress B cell antibody production. T cells can interact with B cells through the indirect pathway of antigen recognition (Figure 1). Therefore, I am generating regulatory T cells that are specific for this pathway of antigen recognition. I plan on examining their ability to suppress non-Gal antibody production through primary inhibition of B cells (Figure 1A) or through suppression of T cell help (Figure 1B). Following the development of these regulatory T cells, I will infuse them to baboon recipients of Gal knockout/hCD47 transgenic swine bone marrow in an attempt to generate long-term mixed chimerism in the xenotransplant model. The funding obtained through the Forde Award will be essential for the progress of this work ■.



KENNETH A. FORDE, MD JUNIOR FACULTY AWARD

AWARD HISTORY

The Kenneth A. Forde, MD, Junior Faculty Research Endowed Fund was established to support research projects conducted by junior faculty (at assistant and associate professor levels), in the Department of Surgery at Columbia.

Through a competitive review, a committee of senior faculty allocates resources from the Fund to the most promising junior faculty research projects annually.

Previous winners have included:

2007

1st Award

June Wu, MD (Plastic)

2008

2nd Award

John Allendorf, MD (Endocrine)

2009

3rd Award (divided)

Christine Rohde, MD (Plastic)

Robert Cowles, MD (Pediatric)

2010

4th Award

James Guarrera, MD (Transplant)

2011

5th Award

Angela Kadenhe-Chiweshe, MD (Pediatric)

2012

6th Award

Hiroo Takayama, MD, PhD (Transplant – CT)

2013

7th Award

Adam Griesemer, MD (Transplant – Abdominal)

2nd Year P&S Student Presents at the American College of Surgeons Clinical Congress – 2013

Trisha J. Hargaden, Samuel Montgomery, Kerry Morrison

Kerry Morrison, a 2nd year medical student at P&S, was invited to present at the 99th Annual American College of Surgeons (ACS) Clinical Congress in Washington DC last October on behalf of P&S's Allen O. Whipple Surgical Society. She was one of eight medical students and the youngest to present "out of the box ideas" for surgical interest groups for medical education to an audience of nearly 700 participants. Kerry is one of the leaders of the P&S Whipple Surgical Society, a society that is thriving due to the creative efforts of the Department of Surgery's Dr. Roman Nowygrod and Surgical Clerkship Coordinator Doris Leddy, who have been working to garner student interest in the field of surgery since 1999. For those new to our department, the P&S Whipple Surgical Society is dedicated to introducing medical students to careers in surgery by early exposure during the pre-clinical years with suture courses, laparoscopic surgery courses, scrub technique courses, transplant pager program opportunities, OR shadowing, and lecture series by esteemed surgeons on the Columbia faculty.

To find out more, Trisha Hargaden, Administrative Coordinator of the John Jones Surgical Society, interviewed Kerry. She asked her a few questions regarding her experience at the ACS and her role as the Course Coordinator and now a Vice President within the Whipple Surgical Society.

How did you end up being selected to attend the ACS conference? What was it that you presented?

Kerry: The ACS Clinical Congress has a medical student program, which is designed specifically for those considering a career in surgery, and occurs concomitantly with the annual conference. New to this year's program was the "outside-the-box" ideas for surgical interest groups session, during which eight medical students were selected nationally to present on a variety of unique programming that they have instituted at their respective medical schools. I presented on Whipple's suture and laparoscopic courses as well as the transplant pager program for pre-clinical students to go with the transplant team for organ procurements. The presentation was extremely well-received by the audience, and I got great questions from both faculty and medical students about how to initiate such programming at their respective universities. Most of the student speakers were fourth year medical students, and I was excited to present as the only second year student. I think this fact alone really emphasizes the extraordinary opportunity that P&S students have to gain early exposure to surgery and leadership within interest groups.



Kerry Morrison (P&S 2015)

What did you enjoy most about your experience at the ACS conference?

Kerry: I have presented my research in heart failure cardiology and cardiothoracic surgery at various national and international conferences in the past, including the American Medical Students Association Conference, and I found the ACS conference did a fantastic job effectively targeting medical students specifically. Highlighting how to optimize each year in medical school to prepare for surgical residency and how to navigate the residency application process, the ACS

program successfully facilitated a dynamic and collaborative forum for students with lecture and small group breakout sessions. Students were able to hone their interviewing skills through interactive 1-on-1 sessions with surgeons as well as network with specialty surgeons, surgical residents, and residency program directors in small group settings of 5 to 8 students.

One of the best aspects of the ACS conference was the chance to get such directed, honest advice from residency directors and to hear about the day-to-day experiences of surgeons in various specialties in small round table discussions. It is a rare opportunity to be able to spend 30-45 minutes with a pediatric surgeon with 5 other students at one table, and then seamlessly move to another table with a vascular surgeon from a different institution and get to hear their perspective on their surgical specialty, training process, and a day in the life of for another 30-45 minutes. All of this was supplemented by extremely high yield small group courses on knot tying, suturing, and crafting personal statements. Overall, I learned an enormous amount from the interactions with surgeons in multiple specialties from all over the country, and gained keen insight into just how strong the medical student surgery training at Columbia is when speaking to medical students at the conference. I am very grateful for P&S and the Department of Surgery's support in sending me to the annual ACS conference.

I would like to take you back a few years, because you say you were involved in cardiothoracic research before you even went to medical school. What influenced you to be involved in this type of research?

Kerry: I went to Columbia University for my undergraduate degree (Columbia College, Class of 2011), and during the winter of my sophomore year my uncle, whom I am very close with, became acutely ill. He needed to have a CentriMag, placed at Columbia – at the time I was told it was

Kerry Morrison Interview—Continued from page 12

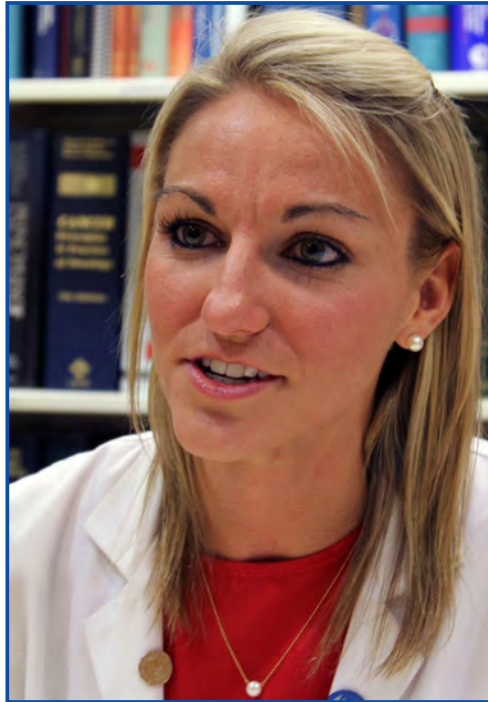
a “Hail Mary” device to emphasize just how sick he was (CentriMag is a magnetically levitated centrifugal-flow pump that can be implanted rapidly in the operating room for both right and left ventricular support). He was transitioned to a HeartMate II LVAD, and eventually received a heart transplant over a year later. I should mention first and foremost that he is doing incredibly well now, and my entire family is extremely appreciative of the care he received at Columbia. At the time though, it was all so sudden and very unexpected since he had no prior cardiac history, was only in his mid-40s, and was extremely active – we skied together often, and he played softball.

Soon after, I applied to work at Columbia University Medical Center with Dr. Oz and Dr. Argenziano, and I did research in their cardiothoracic surgery lab between my junior and senior year at Columbia College. At that point, my uncle had received his heart transplant, and his entire medical course really sparked my interest in the field of cardiothoracic surgery. During the summer research in college, I met Dr. Ulrich Jorde, who is a heart failure cardiologist and the medical director of the LVAD program, and he served as my mentor on a project about aortic insufficiency in continuous-flow LVADs. Dr. Jorde had his own research lab that focused in particular on exercise in LVAD and heart failure patients, and the opportunity arose to be a fulltime research assistant for a year in his lab before going to medical school. I had never considered taking a year off after college, but in fact, it ended up being one of the best things I ever did.

During my time in Dr. Jorde’s lab and working with the LVAD, heart transplant, and heart failure teams, I got a ton of exposure to each element of research from IRBs to publications, had amazing mentorship, and gained incredible insight into the collaborative nature of medicine and long-term patient care. If you go from being an undergraduate student straight to being a medical student you kind of miss sight of the long-term. You also miss out on seeing the day-to-day work of the attendings, their lifestyles, and how they interact with patients. For me, the year in between enabled me to acquire so many skills in research, following projects through to publication, patient care, bedside manner, and team management, which have been invaluable as a medical student. Fortunately for me, I had the opportunity to continue all of my research in LVADs part-time as a medical student at P&S, and full-time with a NIH T-35 grant the summer after my first year.

Now that you are a student here at P&S and a member of the Whipple Surgical Society, can you tell us about your work in introducing other students to the field of surgery?

Kerry: At the beginning of a student’s first year at P&S, the Whipple Surgical Society participates in the P&S Club Fair to solicit interest in the programs we have to offer for early exposure to surgery for pre-clinical medical students.



As the Course Coordinator, I was responsible for organizing a series of suture courses and laparoscopic surgery courses, which we can offer thanks to the mentorship of general surgery residents and education fellows, and scrub technique workshops, in order to prepare students for shadowing in the ORs and ultimately for their MCY surgical clerkships. In fact, students can go in and see surgeries being performed as early as their first month at P&S.

Additionally, the Whipple Society offers a surgery lecture series by esteemed Columbia faculty, and transplant pager program, which offers students the opportunity to be “on call” for a day. P&S students take turns carrying one of

two beepers operated by the Whipple Surgical Society (for liver-kidney and heart-lung procurements). Students travel by ambulance or plane with a transplant fellow or thoracic surgical resident to a donor site, scrub in, and assist in the operation. In addition to offering hands-on operating room experience, the recovery run provides students with early exposure to emotional issues surrounding organ donation and to the lifestyle of transplant surgeons.

Overall, we are hoping to encourage and promote interest in general surgery from the very beginning of medical school, and hopefully these programs will positively impact the number of students eventually matriculating into surgery. Whipple is currently working on a follow up paper to evaluate trends of P&S students matriculating into surgery residencies, whether general surgery or one of the other surgical subspecialties.

What are your own plans for the future? What medical field are you planning on pursuing?

Kerry: When I started at P&S, I was planning to pursue cardiothoracic surgery since I had greatly enjoyed my research at Columbia with the LVAD and heart transplant teams in the Center for Advanced Cardiac Care. However, I am now much more open-minded to other areas of surgery, and quite honestly not sure what I would like to specialize in yet. I have a lot of possibilities I would like to explore – including general surgery, plastic surgery, and cardiothoracic surgery – and would love to find a way to work with pediatric patients as well. I am excited for my Major Clinical Year rotations in surgery and surgical sub-specialties this June and July at NYP, and I hope to have a better idea after those rotations. Ultimately, I am enthusiastic about delving into whichever area of surgery I decide to choose as a career path, and look forward to continuing research.

Stay tuned for our next newsletter when Trisha will be talking to Doris Leddy, the Department of Surgery’s Clerkship Coordinator. Doris will be going into much more detail about the Whipple Society’s programs and how she is helping to garner student interest in the field of surgery. ■

The American College of Surgeons Clinical Congress John Jones Surgical Society Reception Washington DC – October 8, 2013



Abbey Fingeret, Spencer Amory, Rachel Campbell Hooper and Irene Epelboym



Andre Campbell and Craig Smith



Arthur Cooper, Charles Yoon and Jose Guillem



Charles Yoon and Shamly V. Dhiman



Cherif Boutros and Juan Noguerras



Craig Smith and Michele Noguerras



William Bertucci, Cord Sturgeon, James Lee and Franlein Bertucci



Ellen Hagopian, Ann Larkin and Karen Horvath



Warren and Myra Widmann



Peter Connolly and Abbey Fingeret



James Lee, Dennis Fowler, William Bertucci, Franlein Bertucci



Jennifer Kuo and Reza Rahbari



Margaret Chen and Dennis Fowler



Thomas Tracy and Charles Stolar



Karen Horvath and Andre Campbell