My Life as a Surgeon: George K. Gittes, MD

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I was born in Boston and moved to California when I was six years old and then to La Jolla, California when I was seven years old. I grew up in La Jolla. My father was a big inspiration to me as an academic urologist. Unfortunately, my parents were divorced when I was 13 and my father moved to Boston to be the Chief of Urology at Harvard Medical School and Peter Bent Brigham Hospital. I stayed with my mother and graduated from La Jolla High School. After my father moved to Boston, I spent every summer in Boston working in his research laboratory. During that time, I performed extensive rat surgeries, typically under the microscope. I was performing portocaval shunts by the age of 14 and kidney transplants by 15, with my first research publication coming at 17. After graduating high school, I then moved to Cambridge, where I attended Harvard College. I had the intention of becoming a businessman, but after one year of dabbling with that idea, it became clear to me that I needed to do something that was more meaningful and that would help people. Therefore, I switched to pre-med. Part of my reticence towards becoming a doctor was that I did not want to be perceived as following in my father's footsteps. After finishing undergraduate training with a degree in Biology *magna cum laude*, I attended Harvard Medical School. However, prior to starting at Harvard, I researched all of the medical school faculty's research programs to determine what laboratories I might want to work in and began my studies the summer before medical school started, since I was already in Boston. I came across 13 individuals whose laboratory work was attractive. I inquired with all of them, and most of them either did not respond, or responded that I could work with one of their post-doctoral fellows or other trainees. However, one person, Dr. M. Judah Folkman, a pediatric surgeon, responded with a full-page letter and gave me a one-hour tour of his lab. I was just a college student! This peaked my interest in surgery and especially pediatric surgery, since this was Dr. Folkman's focus. At the time, I didn't even know what a pediatric surgeon was; I thought it was a pediatrician who also did some surgery. During my time in medical school, it became clear that I

wanted to be either a surgeon or a pathologist, and I chose the former because it was more interventional, and because Dr. Folkman was such an inspiration to me. After medical school, I wanted to return to California and matched at the University of California, San Francisco (UCSF). While there, I was mentored by the Chairman of the Department of Surgery, Dr. Haile Debas, who was a gifted surgeon-scientist. All through medical school, I had worked with Dr. Folkman on angiogenesis and wrote a thesis to graduate with honors. At UCSF, I wanted to continue my research with a clear focus on pediatric surgery, so I began to study the embryology of the pancreas. I had always viewed the pancreas as a surgical organ, and its development seemed like it would be relevant to pediatric surgery. Because of my interest and strong background in science, Dr. Debas directed me toward his old friend, the former chairman of the Department of Biochemistry and one of the leading minds in science at the time, Dr. William J. Rutter. Dr. Rutter had been famous for discovering how to purify RNA, and he cloned the insulin gene (the first gene ever to be cloned), discovered hepatitis C, and made the first recombinant hepatitis B vaccine. Dr. Rutter was a great inspiration to me, and I worked in his lab surrounded by brilliant minds who could teach me their scientific knowledge and scientific techniques. During that time, I published a two author paper in *PNAS*, with myself as first author and Dr. Rutter second author. As I started looking at pediatric surgical fellowship positions, I became interested in going to the Children's Mercy Hospital in Kansas City because it was by far the busiest pediatric surgical fellowship program in the country. One of my old mentors in pediatric surgery at UCSF, Dr. Alfred Delorimier, had told me that I should go to the busiest program possible, because otherwise I would be viewed as only a "lab rat who can't operate"! I have to admit, I was pretty much a bi-coastal snob at that time, but the thought of two years in Kansas City seemed tolerable. It turned out that I loved it there! Upon completing the fellowship, I was not interested in staying there for research because the academic and research environment was inadequate. I had been a long-term friend with a former UCSF co-resident, Dr. Michael Longaker. He and I had developed a strong friendship and research working relationship. We sought positions that would allow us to work together, so we moved to NYU where we started the Laboratory for Surgical Organogenesis. That first job was a wonderful research environment for the first three years. However, the clinical load in New York was difficult, as I was covering six different hospitals and trying to run a laboratory. Kansas City Children's Mercy Hospital came calling with an offer for an endowed chair and a greatly improved research environment, and I accepted it because I loved Kansas City, and moved back for six years. During that time, I rose

to become President-Elect of the Society of University Surgeons. For various reasons, I was now on the radar screen of many departments of surgery looking for a pediatric surgery chief. Over a six-month period, I was offered six different surgeon-in-chief jobs at children's hospitals. The last one I visited was Pittsburgh, and it was last because Dr. Billiar knew that my father had recently passed away and did not want to come calling for a job offer too soon after his death. I finally did go to Pittsburgh for my first visit in February of 2005 and was absolutely amazed at the academic environment and support from the department, and especially from UPMC Children's Hospital of Pittsburgh. Since coming to Pittsburgh, I have done well in my career. I have been very successful in my research, and I served as Surgeon-in-Chief for 13 years until stepping down three years ago to focus more on my research and to direct the RK Mellon Institute for Pediatric Research. Now, my research is actively focused on three areas that are close to translation to clinical trials, all originating from basic science. We are actively pursuing a viral gene therapy treatment for diabetes (both types I and II), a "chemical pancreatectomy" procedure for chronic pancreatitis (and possibly cystic fibrosis-related diabetes), and an *in utero* injection of sildenafil to cure the lethal pulmonary hyperplasia associated with congenital diaphragmatic hernia.

Dr. Gittes with a post-op appendectomy patient at NYU

My advice for those entering a career in surgery is to be honest with yourself about what you enjoy, work hard, don't lose your temper, and really focus on time management skills.