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A Difficult Path to a Rewarding Career in Surgery

by Ian Haseltine

(English 1102)

The final beat of an exposed heart deflating in the hands of a capable surgeon signifies a possible new beginning for an infant receiving a heart transplant. This infant suffers from dilated cardiomyopathy, which diminishes the heart's capability to pump blood throughout the body. Once a diagnosis of dilated cardiomyopathy leads to either fatality or transplant, terminal patients must rely on the abilities of a surgeon to live beyond their own heart's capability. In the waiting room, there are nervous parents waiting, praying and pacing with worry while anticipating the surgeon's entrance from the operating room. Behind the O.R. doors, the surgeon carefully maneuvers to install a transplanted heart into a tiny life-support-dependent body as he instructs a team of nurses and doctors around him to supply instruments, monitor vitals, vacuum away fluids, and help him maintain this fragile little life. There are no guarantees that this surgery will end in jubilation. However, the surgeon performing this procedure is a pediatric surgeon and transplant cardiologist that has been trained to save lives in this very manner.

The skills of a good surgeon give patients the greatest chance for survival. This pediatric surgeon and transplant cardiologist, like all other surgeons, has the capability to save lives because of a rigorous medical education, advancements in surgical technology, and the possession of physical and mental abilities needed to perform in this demanding occupation. The journey of development into a surgeon is strenuous and demanding, but for those who are capable it will prove rewarding.

Individuals who choose the demanding career of a surgeon must be aware of the trials they will face while working towards such an ambitious vocation. Furthermore, candidates for medical professions should be honest with themselves about their abilities, determination, and personal motives while pursuing the title of "Doctor." According to Dr. Tania Heller, the author of the book *On Becoming a Doctor: Everything You Need to Know about Medical School, Residency, Specialization, and Practice*, the training to become a surgeon "involves four years of medical school followed by five to six years of residency," and that is subsequent to completing a bachelor's degree and gaining acceptance into medical school (158). Someone who is capable of succeeding and excelling through this process must enjoy learning and be able to thoroughly investigate difficult topics. Additionally, aspiring surgeons need to possess a strong determination to compete with an elite class of peers and remain on course to complete their education.

Beyond those skills needed for training, there are other qualities required for proficiency in the art of surgery. The Institute for Career Research published a monograph titled *Careers in Surgery*, where they detail a surgeon's need for physical qualities like manual dexterity, good eye-hand coordination, spatial judgment, and physical stamina: "[M]anual dexterity is an attribute that most surgeons must have. Working with their hands on sensitive and often small areas of the human body requires a certain 'touch.'... Surgeons can often spend hours on their feet performing one or more operations, and difficult surgeries can be physically demanding" (13). Unfortunately, these physical requirements needed to practice surgery may inhibit potentially brilliant candidates from ever becoming a surgeon.

Leadership skills are also essential for a practicing surgeon, because surgeons are responsible for directing a team in the operating room and must make difficult decisions. In his autobiography titled *Trauma: My Life as an Emergency Surgeon*, Dr. James Cole describes the intense pressure involved in leading a team through emergency surgery: "It is in those very worst situations, when the

trauma team looks at us for direction and guidance, that we must remain the ‘Captain of the Ship’ and do our very best to project strength and confidence to our crew” (5). Beyond making difficult decisions, surgeons must also learn to cope with the consequences of their decisions. In trauma surgery experiences like Dr. Cole’s, many lives are lost. He explains, “[I]t is our responsibility to not allow that component of natural humanism to adversely impact our abilities to critically assess, resuscitate, and manage the most severely injured trauma victims” (5). Essentially, surgeons are human beings with feelings like anyone else, but they must develop an ability to control their emotions and think clearly while performing life and death procedures.

Finally, anyone considering becoming a surgeon needs to examine their motives for a career in medicine. Doctors save lives and heal the injured. According to the Institute for Career Research, this incredible task “is a calling and an art. People drawn to the field are primarily dedicated to helping others” (2). Surgeons are members of the healthcare profession, and it is important that they emphasize care for their patients before, during, and after an operation or procedure. Nicholas J. Rohrhoff’s article “Becoming a Physician: What Life is Like,” which was published in the *New England Journal of Medicine*, details how he discovered “caring for patients should begin with caring about them” (683). At the time, Rohrhoff was a medical student who assisted patients in applying for supplemental insurance programs. He described the specific moment that caring became a necessity when interacting with patients: “After the mother of our first enrollee in the State Children’s Health Insurance Program let her gratitude shine through her tears, asking people what their lives are like became a habit for me. It has been so ever since” (683). In addition to strong ambitions and all the attributes for being a successful surgeon, a passion for helping others is the most important characteristic a medical professional must possess.

Incoming college students with a desire to pursue a career in medicine should take their undergraduate studies at a college or university very seriously. Any student with real aspirations for being accepted into medical school should meet with a counselor to determine the proper classes needed to fulfill the premedical curriculum requirements. The United States Bureau of Labor Statistics’ article “Physicians and Surgeons,” published in the *Occupational Outlook Handbook: 2010-11 Edition*, states, “Premedical students must complete undergraduate work of physics, biology, mathematics, English, and inorganic and organic chemistry. Students also take courses in the humanities and social sciences.” Medical schools will only accept accomplished students with superior grade point averages. In an effort to stand out amongst the crowd students should involve themselves in extracurricular activities. Specifically, service learning opportunities or paid internships involving patient care hours or laboratory work will help undergraduates gain exposure to the health care industry prior to medical school. These experiences will help applying students because “acceptance to medical school is highly competitive....Schools also consider an applicant’s character, personality, leadership qualities, and participation in extracurricular activities.” Ultimately, the intangibles and experiences of candidates will determine which students medical schools admit.

An equally important and also required element in applying to medical school is the completion of the Medical College Admission Test (MCAT). According to Dr. Heller, “The MCAT is a standardized five-and-a-half-hour, computer-based exam that tests physical and biological sciences, verbal reasoning, and written skills” (24). Undergraduate students should be prepared to take the MCAT in the spring semester of their junior year as they are completing their premedical curriculum and arranging to apply for medical schools. A highly competitive score on the MCAT is necessary for acceptance to medical school. Prior to taking the exam, students should prepare by attending MCAT preparation classes, utilizing MCAT study guide books, and taking sample tests. Planning ahead and taking the necessary steps to get ready for the MCAT will give students the confidence they need to take the difficult exam.

Following the MCAT, students can submit their applications along with application fees and await the next step of the admission process. Medical schools will select specific applicants to

advance to an interview conducted by the university. Dr. Heller provides evidence of the strict admissions standards by citing acceptance statistics for Georgetown University Medical School in Washington, D.C.: “Georgetown University Medical School received 11,237 AMCAS [(American Medical College Application Service)] applications for the 2008 freshman class. More than 1,110 were interviewed for a class of 194 admitted students” (29). These low numbers of accepted students are representative of how few students succeed in applying to medical school. Dr. Gregory Macaluso, who is currently a practicing advanced heart failure and transplant cardiologist, said of his experience applying to medical schools: “[It was] nerve wracking. I applied to lots of schools. I only had a couple interviews. There was only one acceptance” (4). He also advised students: “Apply to a lot of schools...all over. Don’t limit yourself” (4). Due to the extreme admissions standards of medical schools, students should have alternative plans prepared if they are not accepted.

Surgeons and physicians are not born with the knowledge and skills needed to practice medicine. Instead, medical school shapes hardworking and determined individuals into medical professionals. Upon graduating, medical school students will become doctors, but the journey through medical school is arduous. An episode of the television series *Nova* titled “Doctors’ Diaries” documented seven doctors from their time at Harvard Medical School through seventeen years of their professional careers. Each of the young medical students suffered emotional and physical stresses while attending medical school. Tom Tarter’s medical school struggles led him to confess that “[F]irst-year medical school is absolutely something that one cannot be emotionally prepared for. No matter how much you feel that you’ve reached some kind of equilibrium in your life, I think first year medical school will upset it” (qtd. in “Doctors”). Dr. Tarter’s feelings represent the difficulties that most students face in medical school. However, it is this challenging curriculum and workload that produces highly qualified and prepared medical professionals.

Medical school is divided into two years of in-depth classroom learning and an additional two years of clinical learning. The curriculum of the first two years largely focuses on anatomy and biology. In this time, students will also learn “how to take medical histories, conduct a general examination of patients, and diagnose various illness[es]” (Institute...15). Subsequently, medical students will spend the final two years of medical school “in hospitals and clinics under the close supervision of the physician faculty members” (15). Throughout these years, students will observe and participate in the many fields and specialties of medicine. Most likely, students will have decided during this time in medical school that they would like to specialize as a surgeon.

Upon graduating medical school, aspiring surgeons take the Hippocratic Oath and officially become medical doctors. However, students will transition into residents to receive more in-depth training specific to their preferred surgical specialties. While in the fourth year of medical school, students apply for their residencies. Ultimately, choosing a residency is the same as choosing a surgical specialty. At this time, students can choose from the many available careers of a surgeon. These specialties include, but are not limited to, general surgery, cardiac surgery, orthopedic surgery, pediatric surgery, plastic surgery, and neurosurgery. Applicants that are selected by residency programs will be interviewed. According to Dr. Heller, “After completing interviews, the student ranks his choices and submits a rank-order list to a central service, the National Residency Matching Program (Match)...A computer matches students to programs based on the submissions, and on a specific day in March, the results are announced” (73). Much like the process of applying to medical school, applying to a surgical residency is highly competitive and there are limited openings.

Residency programs are designed to give medical professionals on the job training that will fully prepare them for the challenges they will face in their careers. As residents, surgeons in training will be paid for the first time. The Institute for Career Research provides the following information about the salary of residents: “Beginning when they graduate from medical school, interns usually start with a salary of about \$40,000 per year, with residents earning on a sliding scale as they progress in experience, up to about \$50,000 in their final year of residency” (16). Residents are

expected to work hard to earn these wages. Many medical professionals consider residency the most demanding years of their entire career because of long hours and the immense pressure to make life-and-death decisions in regard to the health of a patient for the first time. Additionally, surgical residents “will usually perform two hundred to four hundred operations under the supervision of attending surgeons during the final years of their residency” (16). After six years, surgical residents will have the skills, confidence, and experience to complete their residencies and begin their careers.

Currently, there are several controversies surrounding medical residency programs. One of these issues has been created by a large number of students desiring specialties in the medical industry with the highest salaries and least demanding schedules. Matt Richtel’s article titled “Young Doctors and Wish Lists: No Weekend Calls, No Beepers,” published in the *New York Times*, details the falling number of applicants interested in specialties like internal surgery and general surgery. The article explains that students are opting for different specialties because a career in surgery is one of the most demanding medical occupations. On the other hand, medical careers in dermatology, radiology, and anesthesiology have drawn a greater interest from students because they allow doctors a more traditional nine-to-five day job. Richtel claims that less qualified candidates are settling for careers in surgery: “[S]tudents who are not selected for residencies in these lifestyle-friendly specialties are choosing internal medicine by default.” This trend is likely to continue if surgeons are not compensated more, or the medical industry does not find a way to lessen the workload required of surgeons.

Recently, medical residency programs have been forced to make drastic changes to the hours residents are required to work. Traditionally, medical residents were required to work shifts longer than thirty straight hours, but several high-profile mistakes related to fatigue have forced system wide changes. Darshak Sanghavi authored an article titled “The Last of the All-Nighters,” published in *New York Times Magazine*, which describes the controversy of reshaping the hours of medical residents. Sanghavi writes, “After decades of debate and over the opposition of nearly every major medical organization and 79 percent of residency-program directors, new rules went into effect that abolished 30-hour overnight shifts for first-year residents.” There is a strong argument that these new restrictions will inhibit medical residents from learning and observing the changes that a patient experiences over the course of thirty hours. Supporters of the new hour restrictions believe that fewer errors will be made by residents who are not suffering from extreme fatigue. Sanghavi explains, “A large body of research on the hazards of fatigue ultimately led to the new rule on overnight shifts by the Accreditation Council for Graduate Medical Education, the independent nonprofit group that regulates medical-residency programs.” These new restrictions may make being under the care of a resident more safe for patients today, but only time will tell if the new rules will produce less competent doctors and surgeons in the future.

Once surgeons complete their medical residencies, they must pass state licensing and board certification exams to begin practicing surgery. Board certifications are administered by medical associations. The American Board of Surgery is one of the largest associations for surgical board certification in the United States. According to the organization’s website:

The American Board of Surgery is an independent, nonprofit organization founded in 1937 to certify individuals who have met a defined standard of education, training and knowledge in the field of surgery. Surgeons certified by the ABS, known as diplomates, have completed at least five years of surgical residency training following medical school and successfully completed a written and oral examination process administered by the ABS. (*American Board of Surgery*)

Surgeons can further their education and add to their qualifications by being certified in more than one surgical specialty. Often, pediatric surgeons, transplant specialists, and cardiologists have

multiple board certifications. Advancements in medical procedures and technologies require surgeons to take continuing educational courses to maintain and renew board certifications.

The arduous path to becoming a surgeon has many rewards. Surgeons are greatly compensated for their skills and knowledge by high salaries. According to the Institute for Career Research, “The median income for general surgeons during their first two years of practice after completing residency is about \$225,000....[S]ome general surgeons make much higher salaries of \$400,000” (16). Wages for surgeons vary based upon geographical factors, specific specialties, and experience. Although surgeons are well paid, anyone considering a career in medicine should not be motivated by the financial compensation. Instead, surgeons should be motivated by the opportunity to help and improve the lives of patients.

Currently, there is a great need for surgeons. The United States Bureau of Labor Statistics states, “Employment of physicians and surgeons is projected to grow 22 percent from 2008 to 2018, much faster than the average for all occupations.” The increase largely comes from an aging population of baby boomers. Surgeons typically find employment within hospitals and operate within the sterile conditions of the operating room. Less frequently, surgeons may find employment in private practices or within the military. Overall, aspiring surgeons should be optimistic about finding a job once they have completed all of their education and training.

Deciding to become a surgeon is a difficult decision. Furthermore, performing the everyday tasks of a surgeon is a complex combination of challenge and reward. Following the heart transplant surgery of an infant suffering from dilated cardiomyopathy, a capable surgeon walks toward the hospital’s waiting room to speak with nervous parents who are waiting, praying and pacing with worry. Fourteen years of preparation for a career in surgery does not teach a surgeon to anticipate the emotions of patients or nervous parents awaiting news. However, those fourteen years conditions the surgeon to successfully perform a transplant surgery and save a life. The ultimate reward for a career in surgery is the opportunity to save and improve the lives of others with a highly developed skill-set acquired only through hard work and determination.

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