



# The Road to Becoming a Cardiothoracic Surgeon

— THE SOCIETY OF THORACIC SURGEONS —

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Since heart disease and lung cancer are the United States' top two causes of death, cardiothoracic surgeons have the potential to make a real difference and improve the life expectancy and quality of life for thousands of patients throughout their careers. From the thrill of working on a beating heart to being on the cutting edge of the latest technology, few professions experience both the excitement and the rewards of cardiothoracic surgery.

With more than 50 percent of the current 3,500 U.S. cardiothoracic surgeons expected to retire within the next decade, the best and brightest young surgeons are needed to fill those positions. View this [short video](#) and learn more from several practicing surgeons as they provide an honest perspective on their profession and their personal satisfaction with their careers. Also, for the locations of cardiothoracic surgery training programs throughout the United States, [click here](#). To speak with a practicing cardiothoracic surgeon, contact The Society of Thoracic Surgeons at (312) 202-5844.

## Who are cardiothoracic surgeons?

Cardiothoracic (sometimes referred to as "CT") surgeons are specialists, both men and women, who have special expertise in the surgical management of disorders of the heart, lungs, esophagus, and major blood vessels of the chest cavity. They provide expert, state-of-the-art care that is interesting, challenging, and complex. Within the specialty of cardiothoracic surgery, one can develop special expertise in adult heart surgery, children's heart surgery, and general thoracic surgery (disorders of the lungs and esophagus).

## Why become a cardiothoracic surgeon?

Challenging, interesting, and fulfilling work that includes emerging therapies and new technology in medicine. Team approaches to problem solving. And above all, a commitment to saving lives. These are just a few of the opportunities a career in cardiothoracic surgery provides. On behalf of The Society of Thoracic Surgeons, we invited you to explore this exciting - and satisfying - career path.

## How do I become a cardiothoracic surgeon?

The basic steps include: college, medical school, and residency training in general surgery, followed by additional training in cardiothoracic surgery. First, college. During the undergraduate years, a student can major in any field of study as long as he/she takes the necessary prerequisite courses for admission to medical school. These courses include one year each of general biology, general chemistry, organic chemistry, physics, and calculus. Most medical schools also require the medical college admissions test (MCAT), which is commonly taken in the spring of the student's junior year. Many students take an MCAT preparatory course for several months preceding the examination. Typically medical school consists of two years of study in the basic sciences and introduction to clinical medicine, followed by one year of exposure to all of the major clinical disciplines. The final year consists of additional clinical exposure and electives.

During a student's senior year of medical school, he/she will work on the application process of applying to a general surgery residency. For useful information concerning training in general surgery, please visit the "Program Requirements" section on general surgery posted on the Web site of the [Accreditation Council for Graduate Medical Education](#) (ACGME). The ACGME is the accrediting body of the Residency Review Committees (RRCs) for each specialty. The RRCs determine the rules and regulations under which the training programs operate, and they maintain the overall quality in the accredited programs. In addition, medical students seeking information on a selection of programs, as well as the application and interview process, should examine the American College of Surgeons' Web site at <http://www.FACS.org/medicalstudents/information.html>.

Ideally, a student should have a surgery faculty advisor for advice throughout the decision-making and application process. This relationship is important because an advisor can provide information about various programs that seem to be of interest, and also write a letter of recommendation. Applications are made to accredited programs using the Electronic Residency Application Services (ERAS). Additional information and forms can be obtained at <http://www.aamc.org/audienceeras.htm>.

During general surgery residency training, which usually consists of five years of clinical rotations through the various surgical disciplines, a student is ordinarily exposed to cardiothoracic surgery in the early and middle years of the training program. Many academic-based training programs either encourage or require one or two years of additional experience in some type of research endeavor. During the fourth year of clinical general surgery training, a student completes the application process to obtain a residency position in cardiothoracic surgery. Much valuable information concerning the application process and the various training programs can be found by visiting the Thoracic Surgery Directors Association online at [www.TSDA.org](http://www.TSDA.org).

Clinical training in cardiothoracic surgery varies between two and three years in length. Some programs offer specialized tracking with an emphasis in general thoracic surgery. During training, a student progresses through a carefully planned and supervised step progression of experience, and develops increasing knowledge, skill, experience, technical ability, judgment, and responsibility. Following successful completion of training in an accredited program, a student is able to sit for the American Board of Thoracic Surgery. Additional experience, if desired, can be obtained in a number of different fellowship opportunities focusing on advanced techniques in heart failure and transplantation, adult heart surgery, children's heart surgery, or lung and esophageal disorders.

In the recent past, alternative methods to obtain training in cardiothoracic surgery have emerged. A new pathway to a residency in cardiothoracic surgery is to first complete a training program in vascular surgery, followed by two or three years of training in cardiothoracic surgery. There are now several training programs that offer, within the same institution, a 4+3 plan, so that during the four years of general surgery training, a resident has the opportunity to spend some time on cardiothoracic surgery rotations. Upon completion of training, the resident is then eligible to become certified by both the American Board of Surgery and the American Board of Thoracic Surgery. In addition, some institutions now offer an integrated six-year clinical program that will match medical students directly into a cardiothoracic pathway. It is anticipated that more six-year integrated programs will emerge in the near future.

### **What does cardiothoracic surgery offer in terms of career opportunities?**

Those who practice in the cardiothoracic surgical specialty find that it is interesting, challenging, and rewarding because it offers a great deal of professional and personal satisfaction. It may be undertaken in a number of different private practice or academic settings. It is a technically demanding specialty that is constantly evolving with new procedures, new approaches, and improving results. In addition to the joy and privilege of caring for others, there are multiple opportunities to participate in teaching and the dissemination of knowledge concerning cardiothoracic disorders and their management. Although much is known in this rapidly evolving field, there are numerous opportunities for the discovery of new knowledge concerning cardiothoracic disease. Cardiothoracic surgeons consistently place themselves in the forefront of research efforts concerning prevention, diagnosis, and treatment of various cardiothoracic abnormalities.

### **What does the future hold for cardiothoracic surgery?**

There are many reasons to be optimistic about the future joys and rewards of a career in cardiothoracic surgery. New techniques are constantly evolving, and surgeons are able to operate on younger, older, and sicker patients with increasing co-morbidities and still obtain improving outcomes. It is anticipated that there will be a large increase in the number of older persons in the years ahead. The baby boomers are approaching their seventh decade of life, and this is a time in which cardiothoracic surgical procedures are frequently needed. Minimally invasive techniques continue to evolve and hold great promise. Less invasive techniques generally provide a more prompt recovery and are thus widely sought after by the public.

### **How can I learn more about becoming a cardiothoracic surgeon?**

For additional information on cardiothoracic surgery visit The Society of Thoracic Surgeons Web site at [www.sts.org](http://www.sts.org). General surgery and cardiothoracic surgery training program directors are knowledgeable concerning cardiothoracic training programs as well as the requirements for Board certification. Current cardiothoracic surgery residents can offer a wealth of information about their current experiences and future plans. In addition, do not hesitate to discuss your career plans with practicing cardiothoracic surgeons, as they can provide very valuable information concerning the joy and satisfaction of this very exciting surgical specialty.