Cardiac Technology

History

In existence for only the past 60 years, cardiac technology is one of the newest, most cutting edge fields in health care. Over the past decade, Cardiac Technology has advanced so rapidly that almost every aspect of the profession is now a subspecialty. Subspecialties can be either invasive or noninvasive and range from Catheterization Lab to Echocardiography to Intensive Care Unit (ICU). Due to an increase in the number of elderly people with heart conditions and improvements in technology, employment of cardiovascular technologists and technicians is expected to increase at a far greater pace than other health care professions.

Cardiac Technology as a Career Today

Cardiovascular technologists and technicians assist physicians in diagnosing and treating a wide range of heart and heart-related ailments. Cardiovascular technologists and technicians schedule appointments, perform ultrasound or cardiovascular procedures, review doctor’s interpretations and patient files, and monitor patient’s heart rates. Other tasks include operating and caring for testing equipment, explaining test procedures and comparing findings to a standard to identify problems. Each specialty’s specific day-to-day activities vary significantly.

Cardiac technology is comprised of two major subgroups: invasive cardiology and noninvasive technology. Cardiovascular technologists who specialize in invasive procedures are called cardiology technologists. They assist physicians with cardiac catheterization, a procedure used to determine whether there is a blockage in blood vessels supplying the heart. The procedure involves threading a small tube, or catheter, through a patient’s artery from a spot on the patient’s groin to the heart. Some cardiovascular technologists and technicians schedule appointments, type doctor’s interpretations, maintain patient files and care for equipment.

Noninvasive technologists are subdivided into vascular technologists or vascular sonographers and electrocardiograph (EKG) technicians. Vascular technologists assist physicians in the diagnosis of disorders affecting the circulation. They complete patients’ medical history, evaluate pulses and assess blood flow in arteries and veins by listening to the vascular flow sounds for abnormalities and ensure the appropriate vascular test has been ordered. Then they perform a noninvasive procedure using ultrasound instruments to record vascular information such as vascular blood flow, blood pressure, oxygen saturation, cerebral circulation, peripheral circulation and abdominal circulation.
Many of these tests are performed during or immediately after surgery. Their findings aid the physician in the patient diagnosis and management. EKG technicians perform EKGs and sonograms of the heart. EKG technicians with advanced training perform Holter monitoring and stress testing. Cardiac sonographers use ultrasound to examine the heart chambers, valves and vessels.

**Aptitude**

To have a successful and fulfilling career in cardiac technology, one must be able to learn independently, work as a member of a team, approach patients in a sympathetic, supportive and professional manner and employ a careful and analytical approach to work. Technologists and technicians must be willing to be on call and work 40 hours per week and sometimes on weekends. Technologists and technicians must be prepared to spend most of their day walking or standing and to deal with stressful, life-or-death situations. Cardiovascular technologists and technicians must be reliable, have mechanical aptitude and be able to follow detailed instructions. A pleasant, relaxed manner for putting patients at ease is an asset. They must be able to communicate technically with physicians and simply when explaining procedures to patients.

**Education**

Very few cardiovascular technologists, vascular technologists and cardiac sonographers are currently trained on the job; most receive training in two- to four-year programs. The majority of technologists complete a two-year junior or community college program, but four-year programs are increasingly available.

The first year is dedicated to core courses and is followed by a year of specialized instruction in either invasive, noninvasive cardiovascular or noninvasive vascular technology. Those who are qualified in an allied health profession need to complete only the year of specialized instruction.

As of 2006, there were 31 programs accredited in cardiovascular technology in the United States. Similarly, those who want to study echocardiography or vascular sonography may also attend Commission on Accreditation of Allied Health Professional (CAAHEP) accredited programs in diagnostic medical sonography. In 2006, there were 147 accredited diagnostic medical sonography programs. Those who attend these accredited programs are eligible to obtain professional certification.

Unlike most other cardiovascular technologists and technicians, most EKG technicians are trained on the job by an EKG supervisor or a cardiologist. On-the-job training usually lasts eight to 16 weeks. Most employers prefer to train people already in healthcare. Some EKG technicians are students enrolled in two-year programs to become technologists, working part-time to gain experience and make contact with employers.
One-year certification programs exist for basic EKGs, Holter monitoring and stress testing.

**Cardiovascular Technology Programs in Louisiana**

Cardiovascular Technology Program, Lacombe, LA; for further information, visit www.cardiovasculartechnologytraining.com

Cardiovascular Technologist Program, Louisiana State University Health Sciences Center, Department of Cardiopulmonary Science, New Orleans, LA; for further information, visit http://alliedhealth.lsuhsc.edu/cardiopulmonaryscience/

**Salaries**

In 2006, the average hourly wage for cardiac technologists and technicians was $21.15 per hour. The average yearly wage was $43,990. Shreveport, Louisiana has the one of the highest concentrations of workers in a metropolitan area in the United States, with salary averaging $33,140 annually.

**Professional Associations**

Alliance of Cardiovascular Professionals  
http://www.acp-online.org

American Society of Echocardiography  
http://www.asecho.org

Commission on Accreditation of Allied Health Education Programs (CAAHEP)  
http://www.caahep.org

Society of Vascular Ultrasound  
http://www.svunet.org

**Additional Web Resources**

http://www.bls.gov/oco/ocos100.htm#outlook  
http://www.mshealthcareers.com/careers/cardiovasculartechnologist.htm  
http://www.caahep.org