SOUTHEAST TECHNICAL INSTITUTE (STI)

CARDIOVASCULAR TECHNOLOGY – CARDIAC & VASCULAR ULTRASOUND
TECHNICAL STANDARD

To assist in making a decision about pursuing this program, the following is a general overview of the physical requirements, working conditions and job duties of Cardiac & Vascular Sonographers/Technologists.

**Cardiac & Vascular Sonographers/Technologists**

The sonographers use imaging technology to help physicians diagnose cardiac (heart) and peripheral vascular (blood vessel) ailments in patients. They also help physicians treat problems with cardiac and vascular systems, such as blood clots. Cardiovascular technologists may assist physicians with invasive procedures.

**Vascular sonographers** help physicians diagnose disorders affecting blood flow. They listen to the blood flow in the arteries and veins to check for abnormalities. They perform a medical history, evaluate pulses and assess blood flow in arteries and veins by listening to the vascular flow sounds for abnormalities. Then they perform a noninvasive procedure using ultrasound instrumentation to record vascular information such as vascular blood flow, blood pressure, changes in limb volume oxygen saturation, cerebral circulation, peripheral circulation, and abdominal circulation. Some of these tests are performed during or immediately after surgery. They may also assist with invasive procedures to help diagnose or treat disorders.

**Cardiac sonographers** use ultrasound to examine the heart’s chambers, valves, and blood flow. They use ultrasound instruments to create images called echocardiograms. They may also assist with invasive procedures to help diagnose or treat disorders.

Cardiovascular technologists typically do the following:

- Prepare patients for procedures by taking medical history and answering their questions
- Prepare and maintain imaging equipment
- Perform noninvasive procedures, such as taking ultrasound images
- Analyze the images to check for quality and to ensure adequate coverage of the area being diagnosed
- Recognize the difference between normal and abnormal images
- Discuss image results with the physician
- Help physician’s during invasive procedures, such as inserting catheters, needles etc
- Record findings and track patient records
Sonographers/technologists do or help do tests that can be either invasive or noninvasive. An invasive procedure requires inserting probes or other instruments into a patient’s body, and a noninvasive procedure does not.

**Important Qualities:**

- **Detailed orientated** – Must be able to follow exact instructions from physicians or other healthcare workers.
- **Interpersonal skills** – Must be able to work closely with patients. Sometimes patients are in extreme pain or under mental stress, and the sonographer must get patients to cooperate to do the procedures.
- **Physical stamina** – Must be able to work on their feet for long periods of time and must be able to lift and move patients who need help.
- **Technical skills** – Must understand how to operate complex machinery to provide useful diagnostic information to physicians and other healthcare workers.

Hours are generally daytime hours with some weekends, holidays and call time is expected for emergency procedures. Sonographers may work within a hospital/clinic setting or on a mobile unit. They must be able to explain procedures to the patient prior to testing, and able to explain preliminary test results to physicians following procedures. Most hospitals/clinics will require a registry from credentialing agencies such as Cardiovascular Credentialing International and/or American Registry of Diagnostic Medical Sonographers.

**Sonographers/Technologists are expected to have the ability to:**

- regularly talk and hear
- regularly sit; reach with hands and arms; use hands and fingers to handle and feel
- regularly communicate effectively via speech, reading, and writing
- regularly possess fine finger dexterity
- regularly use high degree of hand-eye coordination to manipulate equipment, while simultaneously inputting data into a machine or working with a patient
- frequently required to stand, walk, kneel, bend/stoop, squat
- frequently see images from monitors; distinguish multiple shades of gray and colors
- routinely able to discern small numbers and gauges on medical equipment in dimly lit conditions; extreme attention to detail
- frequently distinguish audible (Doppler) sounds
- occasionally lift and/or move or use pushing/pulling force up to 75 pounds
- occasionally reach above shoulder level

*Source: [www.bls.gov](http://www.bls.gov) and local job descriptions

I am acknowledging I have read the above information and understand the general physical requirements, working conditions and job duties typically associated with Vascular Sonographers and Technologists. I understand that this information is general in nature and those actual conditions and job duties may vary.
Southeast Technical Institute
Cardiac or Vascular Ultrasound Program

As a student of the Southeast Technical Institute Cardiac or Vascular Ultrasound Program, these typical requirements of a Cardiac/Vascular Sonographer are provided for you in order to enhance your understanding of the position, its responsibilities, working conditions and to help you make a more informed decision about pursuing this career. If you have further questions, please contact program instructor.

Technical Standards for Cardiac and Vascular Sonographers

- See the previous sheet
- You may also go to www.bls.gov

Risks and work conditions of for sonographers:

- Work-related musculoskeletal disorders affect a large number of sonographers, particularly those with heavy loads and those who have been in the profession for a long time.
- Sonographers and student Sonographers will have extensive, direct patient contact that will likely include invasive procedures and exposure to blood and body fluids.
- Sonography is usually performed in small, dark exam rooms, at patient bedsides, in emergency rooms, or operating rooms.
- Sonographers may be required to work various shifts to provide 24-hour coverage, including early morning, day, evening and night shifts. Shifts may be 8, 10, or 12 hours in length. Some facilities will also require sonographers to be on call.
- Sonographers and student sonographers must be able to tolerate physical and emotional stress and continue to function effectively and compassionately with the sick and injured.
- The Sonographer must be able to conceptualize and comprehend multi-dimensional relationships of anatomic structures and their appearance on a two-dimensional screen.

I am acknowledging I have read the above information and understand the requirements and working conditions typically associated with Cardiac and Vascular Ultrasound.