

Technical Standards - General Attributes of a Diagnostic Medical Sonographer

Students who are successful in Diagnostic Medical Sonography are emotionally mature, academically able, highly motivated, self-disciplined and willing and able to devote a considerable amount of time to their program. They are patient and enjoy working with and serving people. They are able to physically move patients. They are able to follow directions provided by their supervisor, radiologists and physicians.

Based upon job performance tasks, the entry-level graduate sonographer will be utilizing all of his or her sensory perceptions as well as mental and intellectual skills in the verbal, written and mathematical areas. Certain physical characteristics of the profession will have physical demands placed on the sonographer.

To expand on this, the following general attributes (technical standards) are necessary for entry-level positions in Diagnostic Medical Sonography:

Language Arts/Communications

Verbal

The sonographer:

- speaks clearly, concisely and employs correct vocabulary and grammar for communication with staff, physicians, students, faculty, patients and the public.
- gives verbal instructions to patients.
- explains procedures to patients and responds to patients' questions and concerns.
- presents an oral summary of the ultrasound exam.

Written

The sonographer:

- writes Preliminary Reports dictated by the radiologist.
- describes in writing various types of incidents that occur to the patient.
- writes on patient charts and requisitions using correct grammar, spelling, punctuation, sentence structure and appropriate medical terminology.
- writes a summary of the ultrasound exam.
- writes legibly.

Sensory Attributes

Visual

The sonographer:

- confirms the patient's identity from the identification band and x-ray number.
- reads the physician's orders and requests, as well as the patient's clinical history from the request and chart.
- finds and reads the laboratory results in the patient's chart.
- observes the patient for shock or respiratory distress.
- identifies normal and abnormal anatomical structures on the various diagnostic imaging procedures.
- identifies subtle tissue variations on the image display.
- adjusts various equipment settings to create optimal images.
- works in a dimly lit room watching a TV monitor for long periods at a time.
- performs safety checks on the equipment.

Auditory

The sonographer:

- uses a stethoscope to take blood pressure and hear blood flow.
- acquires a brief medical history from the patient and records the verbal responses of the patient.

- listens to Doppler flow patterns during vascular studies.
- answers telephones and acquires pertinent information.
- listens and follows verbal directions from physicians, supervisors, and other medical personnel to acquire pertinent information and orders.

Touch

The sonographer:

- touches the patient with the ultrasound probe to obtain images.
- touches the patient to provide moving assistance and patient care.
- touches the patient to palpate masses in assessing the patient.

Body Mechanics and Physical Characteristics

The sonographer:

- moves patients by lifting and sliding.
- pushes mobile sonographic equipment from the sonography department to the operating room, emergency room and to the patient's room.
- moves patients for proper positioning on the exam cart.
- uses eye-hand coordination to perform the sonographic exam and make equipment adjustments.
- stands and/or sits for extended periods of time while performing sonographic examinations and other responsibilities of the job.
- must have full use of both hands, wrists and shoulders to hold the ultrasound probe, type on a keyboard and adjust machine controls and monitor.
- grips the ultrasound probe for extended periods of time (often exceeding 30 minute intervals).
- presses, angles, and slides the ultrasound probe to obtain required images.
- reaches to full arm extension for extended periods in order to obtain required images.

Intellectual and Mental/Emotional

Intellectual

The sonographer:

- uses algebra in solving physics problems.
- uses equipment in quality control.
- uses rote memorization and recall in fulfilling exam protocols.
- performs patient assessments.
- uses cognitive skills to assure proper operation and adjustment of sonographic equipment.
- uses cognitive skills to recognize normal and abnormal sonographic patterns, and integrates this knowledge with patient's history, to assist the physician with diagnoses.
- uses cognitive skills for abstract concepts in applying physics principles to perform sonographic and Doppler examinations.
- demonstrates knowledge of normal anatomy, physiology and disease processes.
- integrates laboratory test results and/or patient history with orders for sonographic procedures.
- uses independent judgment and decision making to image pertinent structures to demonstrate the presence or absence of pathology.
- uses independent judgment and decision making to modify an exam based on patient condition, situation, and/or pathologic findings.
- correlates the ordered exam with patient's clinical symptoms and laboratory results.
- assesses the patient's ability to tolerate procedures.
- evaluates any contra-indications to the procedure, such as medications, insufficient patient preparation or the patient's inability or unwillingness to tolerate the procedure.
- performs measurements and calculations according to protocols.

- uses independent judgment and systematic problem-solving methods to produce high quality diagnostic information and optimize patient care.

Mental/Emotional

The sonographer:

- performs procedures in the emergency room, operating room, and intensive care unit.
- participates in procedures related to fetal malformations, fetal death, and invasive procedures such as biopsies and fluid aspirations.
- is required to make independent decisions and accept a high level of responsibility.
- interacts with trauma patients, chronically ill patients, acutely ill patients, and terminally ill patients of all ages.
- provides service to all patients, regardless of age, sex, race, national origin, religion, or physical condition and disease process.

These attributes are also integrated into our educational process in the form of academic and clinical performance objectives. If you feel that because of a learning disability, physical disability, or mental/emotional condition you would have a problem accomplishing these entry-level skills, then please make an appointment with the following: an academic counselor, the coordinator of the Accessibility Services, and a faculty member of the Diagnostic Medical Sonography program. Having a special need may not preclude you from entering the program.

ENTRY LEVEL REQUIREMENTS FOR SONOGRAPHERS

The Diagnostic Medical sonographer is required to routinely perform the additional attributes such as, but not limited to the following:

1. Push and pull heavy equipment (500 pounds) up to distances of 800 yards.
2. Ability to move/transfer and skillfully position patients weighing up to 400 pounds.
3. Lift more than 50 pounds routinely.
4. Bend and stoop routinely.
5. Stand for long periods of time.
6. Watch computer screens in dimly lit rooms for up to 10 hours a day.
7. Have 20/20 corrected vision.
8. Adequately view sonograms including color distinctions.
9. Have proper corrected hearing to distinguish audible sounds.
10. Have full use of hands, wrists and shoulders.
11. Display capability of typing and scanning with opposite hands.
12. Demonstrate dexterity.
13. Demonstrate the ability to fully extend his/her arms and apply downward pressure while scanning.
14. Demonstrate strong grip strength to grasp the transducer while applying downward pressure while scanning.
15. Demonstrate an ability to move one's arm in a scrubbing motion which is required during scanning.
16. Demonstrate the ability to think in the abstract.
17. Demonstrate the ability to determine three-dimensional structures from two-dimensional images.
18. Interact compassionately and effectively with the sick or injured.
19. Assist patients on and off examining tables.
20. Communicate effectively with patients and other health care professionals.
21. Organize and accurately perform the individual steps in a sonographic procedure in the proper sequence.