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**DELGADO COMMUNITY COLLEGE**  
**DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM**

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**TECHNICAL STANDARDS**

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The Diagnostic Medical Sonographer job description is provided to inform prospective Sonography students of the essential responsibilities and functions of a Sonographer. The description also includes the physical and mental demands, as well as the human relations involvement required of a Sonographer. This information is provided to help the prospective Diagnostic Medical Sonography student judge his/her own capabilities with those required of a Sonographer.

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**DIAGNOSTIC MEDICAL SONOGRAPHER**  
**JOB DESCRIPTION**

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Medical Sonographer is a Diagnostic Ultrasound Professional that is qualified by professional credentialing and academic and clinical experience to provide diagnostic patient care services using ultrasound and related diagnostic procedures. The scope of practice of the Diagnostic Medical Sonographer includes those procedures, acts and processes permitted by law, for which the individual has received education and clinical experience, has demonstrated competency, and has completed the appropriate ARDMS certification(s) which is the standard of practice in ultrasound.

Diagnostic ultrasound involves the use of low intensity, high frequency sound waves to provide diagnostic information about human anatomy and pathology. The Diagnostic Medical Sonographer creates and records the ultrasound images which are interpreted by a physician. A sonographer must use considerable judgment and have a broad knowledge base in acoustical wave behavior, instrument variables and a complete understanding of multi-planar cross-sectional anatomy.

- The Diagnostic Medical Sonographer is responsible for the independent operation of sonographic equipment, and for performing and communicating results of diagnostic examinations using sonography.
- The Diagnostic Medical Sonographer is responsible for daily operations of the sonographic laboratory, patient schedule, equipment maintenance, the report of equipment failures, and quality assurance (QA). The sonographer maintains a high standard of medical ethics at all times and is self-motivated to increase level of understanding and knowledge of the field, disease, and new procedures as they evolve.

*The following technical standards and essential functions outline reasonable expectations of a student in the Sonography Program for the performance of common sonographic imaging functions. The sonography student must be able to apply the knowledge and skills necessary to function in a variety of classroom, lab, and/or clinical situations while providing the essential competencies of sonographic imaging. These requirements apply for the purpose of admission and continuation in the program.*

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## **PERFORMANCE RESPONSIBILITIES AND ESSENTIAL FUNCTIONS TECHNICAL RESPONSIBILITIES**

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The Sonographer should be able to:

- Examine ultrasound exam requisitions to verify the accuracy and completeness of information.
- Upon request for when appropriate, retrieve radiographic and ultrasonic patient films and records.
- Select appropriate instrumentation for each type of exam and select appropriate instrumentation changes necessary to adjust to patient variables.
- Exercise good judgment when performing ultrasound procedures.
- Recognize emergent patient conditions and respond accordingly.
- Follow scan protocols that are required by each physician who interprets ultrasound exams.
- Make accurate measurements off of ultrasound images and utilize computer program to calculate additional data from measurements.
- Recognize and differentiate artifacts from normal or pathological processes.
- When pathology is imaged, modify scan protocol to include additional techniques and images of the pathology and areas where related pathology might exist.
- Recognize safety hazards.
- Recognize and report any change in the performance of ultrasound or other equipment used to perform an ultrasound exam.
- Perform periodic quality assurance tests on the ultrasound instrumentation and maintain records of the tests.
- Recognize when equipment quality assurance tests indicate that the physician and other hospital personnel should be notified.
- Maintain order and cleanliness of equipment and ultrasound exam area.
- Provide information about diagnostic ultrasound to patients, their relatives and staff.

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## **ADMINISTRATIVE AND RECORD KEEPING**

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The Sonographer should be able to:

- Schedule patient exams and procedures.
- Maintain all necessary departmental and hospital records (may require use of computer systems).
- Maintain an adequate inventory of necessary supplies.
- Maintain records of all equipment quality assurance tests.

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## **COMMUNICATION SKILLS**

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As part of performance and essential functions of a sonographer, the sonographer must have the ability to interact and communicate with physicians, hospital staff, visitors, patients, and supervisors in English by both verbal and written methods (including telephone).

- Accurately read (over the phone) ultrasound exam reports.
- Locate, record laboratory values and other appropriate information from the patient's chart and report this information to the physician in charge of ultrasound interpretation.
- When appropriate, obtain medical history and other information from patients and report this information to the physician in charge of ultrasound exam.
- Instruct patients prior to, during, and after ultrasound exams in order to relieve patient anxiety, maintain patient cooperation, achieve proper patient positioning, and insure that patient comfort is maintained as much as possible.
- Demonstrate sensitivity towards individuals from diverse backgrounds.
- Communicate with patients in a manner displaying compassion and empathy.
- Effectively use verbal and non-verbal methods of communication when interacting with patients.
- Understand and respond to non-verbal communication.

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## EQUIPMENT

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Instrumentation that the sonographer uses includes (but it not limited to) the following:

- Various stationary and portable ultrasound instruments including:
  - M-mode
  - B-Mode
  - Doppler
  - Transabdominal Transducers
  - Endovaginal Transducers
  - Endorectal Transducers
- Computers / PACs Systems
- Digital storage devices
- Video recorders
- Video printers
- QA phantoms

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## PHYSICAL INVOLVEMENT – WORK ENVIRONMENT

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Sonographer's duties and work environment requires that they:

- Work eight and one-half hours a day with a half hour lunch break and two fifteen minute breaks as the schedule permits.
- Stand or walk on hard floors up to 8 hours a day.
- Push or pull wheelchairs, stretchers, carts and equipment, including ultrasound machines.
- Have full use and range of motion of both hands, wrists, and shoulders.
- Lift equipment or supplies up to 50 pounds without assistance.
- Lift patients (with assistance).
- Assist patients onto and off of exam surfaces.
- Reach above head to change instrument controls or load storage areas.
- Bend or squat when maneuvering the patient onto the table or lifting equipment and supplies.
- Work in small spaces with many obstacles.
- Work in dimly lit areas.
- Work around continuous low level noise from equipment.
- Perform ultrasound exams in a sterile environment (when required).
- View TV monitors for hours at a time.

- Move independently about the department, hospital, clinical facility and/or patient rooms in an expedient manner.
- Rapidly respond to emergency signals and alarms.

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### **SPECIALIZED MOTOR SKILLS**

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Sufficient motor ability to execute the movement and skills required for safe and effective and emergency treatment.

- Possess manual dexterity and hand-eye coordination necessary to hold and maneuver transducer probe on a patient and obtain precise repeatable image planes.
- Be able to hold and maneuver a transducer probe (6-8 oz.) on a patient while applying pressure (up to 40lbs) to the patient's skin for extended periods of time (1-10 min).
- Maintain hand-eye coordination in order to always be aware of image scan plane and it's orientation to the patient.

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### **VISUAL ABILITY**

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Sonographers should possess the following visual abilities:

- Differentiate color differences on viewing monitor.
- Differentiate subtle differences in shades of gray that are displayed on viewing monitors and film.
- Be able to perform exams in dimly lighted areas.

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### **AUDITORY ABILITY**

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Sonographers should possess the following auditory abilities:

- Hear auditory signals from monitors, cameras, and beepers.
- Hear and differentiate frequencies from speakers during Doppler exams.

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## **MENTAL ABILITY**

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Ability to collect, interpret and integrate information and make decisions. Sonographers should possess the following mental abilities:

- Understand and interpret written and verbal instructions.
- Maintain concentration on images displayed on screen for up to one hour.
- Remember previous images in order to establish a three dimensional concept from two dimensional images.
- Remember previous scan planes that demonstrated pathology or anatomy and repeat these scan planes for review by the physician interpreting the exam.
- Be able to be in close contact with patients (pediatric, geriatric, pregnant, acutely ill, contagious) for up to an hour at a time.

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## **BEHAVIORAL AND SOCIAL ATTRIBUTES**

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Possess the emotional health and stability required for full utilization of the sonographer/student's intellectual abilities, the exercise of good judgment, the prompt completion of all academic and patient care responsibilities and the development of mature, sensitive, and effective relationships with clients and other members of the health care team.

Possess the ability to tolerate taxing workloads, function effectively under stress, adapt to changing environments, display flexibility and learn to function in the face of uncertainties inherent in clinical settings with patients.

Possess compassion, integrity, concern for others, and motivation.

Possess the ability to demonstrate professional behaviors and a strong work ethic.

- Manage heavy schedules and deadlines.
- Perform in a fast-paced clinical situation.
- Able to remain calm and focused during the performance of sonographic exams.
- Display flexibility and adaptability.
- Demonstrate integrity, concern for others/compassion, appropriate interpersonal skills, interest and motivation.
- Monitor and adapt one's own behavior based on feedback from instructor/clinical staff in order to demonstrate a commitment to professional practice.

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## RESOURCES

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The sonographer should comply with:

- Sonographer Code of Ethics
- Clinical Practice Standards
- Scope of Practice

**Society of Diagnostic Medical Sonography**

[www.sdms.org](http://www.sdms.org)

[www.ardms.org](http://www.ardms.org)

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