



Diagnostic Medical Sonographer

Diagnostic Medical Sonographer's

specialize in creating images of the body's organs and tissues. The images are known as sonograms (or ultrasounds). Sonograms are often the first imaging test performed when disease is suspected. Diagnostic medical sonographers may work closely with physicians or surgeons before, during, and after procedures. Many people associate sonography with pregnancy. It's how a fetus can be seen in the womb. But this technology has many other applications in the diagnosis and treatment of medical conditions in the abdomen, breast, heart and blood vessels and, more recently, in diagnosing and treating musculoskeletal problems.

Diagnostic medical sonography is an imaging modality that can work in conjunction with other imaging modalities such as x-ray, MRI, CAT scans and nuclear medicine studies.

The following are examples of types of diagnostic medical sonographers:

- **Abdominal sonographers** specialize in imaging a patient's abdominal cavity and nearby organs, such as the kidney, liver, gallbladder, pancreas, or spleen. Abdominal sonographers may assist with biopsies or other examinations requiring ultrasound guidance.
- **Breast sonographers** specialize in imaging a patient's breast tissues. Sonography can confirm the presence of cysts and tumors that may have been detected by the patient, physician, or a mammogram. Breast sonographers work closely with physicians and assist with procedures that track tumors and help to provide information for making decisions about the best treatment options for breast cancer patients.
- **Musculoskeletal sonographers** specialize in imaging muscles, ligaments, tendons, and joints. These sonographers may assist with ultrasound guidance for injections, or during surgical procedures, that deliver medication or treatment directly to affected tissues.
- **Neurosonographers** specialize in imaging a patient's nervous system, including the brain and spinal cord. Many diseases they image are associated with premature births or birth defects. They may work closely with pediatricians and other caregivers.
- **Obstetric and gynecologic sonographers** specialize in imaging the female reproductive system. Many pregnant women receive sonograms to track the baby's growth and health. Obstetrical sonographers work closely with physicians in detecting congenital birth defects.

Diagnostic sonography uses high-frequency sound waves to produce images of the inside of the body. The sonographer uses an instrument called an ultrasound transducer on the parts of the patient's body that are being examined. The transducer emits pulses of sound that bounce back, causing echoes. The echoes are then sent to the ultrasound machine, which processes them and displays them as images used by physicians for diagnosis

DUTIES

Diagnostic medical sonographers typically do the following:

- Prepare patients for procedures by taking a patient's history and answering any questions about the procedure
- Prepare and maintain diagnostic imaging equipment
- Operate equipment to obtain diagnostic images or conduct tests
- Analyze the images or test results to check for quality and adequate coverage of the areas needed for diagnoses
- Recognize the difference between normal and abnormal images and other diagnostic information
- Analyze diagnostic information to provide a summary of findings for physicians
- Record findings and keep track of patients' records.

IMPORTANT QUALITIES

- **Detail oriented.** Diagnostic imaging workers must follow precise instructions to obtain the images needed to diagnose and treat patients. They must also pay attention to the screen while scanning a patient's body because the cues that contrast healthy areas with unhealthy ones may be subtle.
- **Hand-eye coordination.** To get quality images, diagnostic imaging workers must be able to accurately move equipment on the patient's body in response to what they see on the screen.
- **Interpersonal skills.** Diagnostic imaging workers must work closely with patients. Sometimes patients are in extreme pain or mental stress, and they must get cooperation from the patient to create usable images.
- **Physical stamina.** Diagnostic imaging workers are on their feet for long periods and must be able to lift and move patients who need assistance.
- **Technical skills.** Diagnostic imaging workers must understand how to operate complex machinery and computerized images.

EDUCATION

Colleges and universities offer both associate's and bachelor's degree programs in sonography. One-year certificate programs also are available from colleges or in hospitals, although these are usually useful only to those who are already employed in related healthcare jobs, such as a radiation therapist or radiologic technologist. Employers typically prefer candidates with degrees or certificates from accredited colleges or hospital programs. Someone who works in a related occupation, such as radiologic technology, could become a diagnostic medical sonographer after receiving on-the-job training from his or her employer.

Related Schools

- Northern Virginia Community College – Springfield, VA
- Piedmont Virginia Community College – Charlottesville, VA
- Southside Regional Medical Center – Colonial Heights, VA
- Tidewater Community College – Virginia Beach, VA

LICENSURE/CERTIFICATION

Most employers prefer to hire diagnostic imaging workers with professional certification. Many insurance providers and Medicare pay for procedures only if a certified sonographer, technologist, or technician performed the work.

Diagnostic imaging workers can earn certification by graduating from an accredited program and passing an exam. Most exams relate to the specialty that the diagnostic imaging worker is most interested in—for example, a sonographer can take a specific exam to become certified in abdominal sonography. Most diagnostic imaging workers have at least one certification, but may earn various certifications. A few states require diagnostic medical sonographers to be licensed. Typically, professional certification is required for licensure; other requirements vary by state

WORKING CONDITIONS

Diagnostic medical sonographers held about 58,800 jobs in 2012. Most diagnostic imaging workers were employed in hospitals in 2012, while others worked in healthcare settings such as physician's offices and medical and diagnostic laboratories.

Diagnostic imaging workers complete most of their work at diagnostic imaging machines in dimly lit rooms, but they also may perform procedures at patients' bedsides. They may be on their feet for long periods and may need to lift or turn patients who are disabled.

JOB OUTLOOK

Employment of diagnostic medical sonographers is projected to grow 46 percent from 2012 to 2022, much faster than the average for all occupations.

As imaging technology evolves, medical facilities will use it to replace more invasive, costly procedures. Technological advances and less expensive equipment now allow more procedures to be done outside of hospitals. Third-party payers encourage the use of these noninvasive measures over invasive ones.

Although hospitals remain the primary employer of diagnostic medical sonographers, employment is projected to grow more rapidly in physicians' offices and in medical and diagnostic laboratories. Employment in these healthcare settings is projected to increase because of a shift toward outpatient care whenever possible.

As the large baby-boom population ages and people remain active later in life, the need to diagnose medical conditions—such as blood clots and tumors—will likely increase, and imaging technology is a tool used in making these diagnoses. Additionally, federal health legislation will expand the number of patients who have access to health insurance, increasing patient access to medical care. Diagnostic imaging workers will continue to be needed to use and maintain the equipment needed for diagnosis and treatment.

AVERAGE SALARY

The median annual wage for diagnostic medical sonographers was \$65,860 in May 2012. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10% earned less than \$44,990, and the top 10% earned more than \$91,070.

Most diagnostic imaging workers work full time. Because they work in facilities that are always open, some may work evenings, weekends, or overnight.

PROFESSIONAL ASSOCIATIONS

Society of Diagnostic Medical Sonography (SDMS)

2745 Dallas Parkway Suite 350

Plano, Texas 75093-8730

Phone: (214)473-8057

Fax: (214)473-8563

<http://www.sdms.org>

American Registry for Diagnostic Medical Sonographers (ARDMS)

1401 Rockville Pike Suite 600

Rockville, MD 20852-1402

Phone: (301)738-8401/(800)541-9754

<http://ardms.org>

Related Websites:

<http://www.bls.gov/ooh/healthcare/diagnostic-medical-sonographers.htm> (visited June 16, 2015).

http://explorehealthcareers.org/en/Career/29/Diagnostic_Medical_Sonographer