

## Diagnostic Medical Sonography Career Information

### What is diagnostic medical sonography?

Diagnostic medical sonography (DMS) uses high frequency sound waves to produce images (sonograms) of structures such as the liver, heart or unborn baby that can be visualized on a video monitor. Sonography is often referred to as “ultrasound” or “ultrasonography”. Sonography can be used to examine many parts of the body including organs in the abdomen, the breast, the uterus and ovaries, the prostate gland, the heart and blood vessels. Doppler sonography is used to evaluate blood flow through the heart and blood vessels including large arteries and veins as well as small capillaries in organs. Sonography is also used to guide biopsies of tumors and other tissues to obtain a tissue sample for analysis under a microscope.

A few characteristics that are unique to sonography are its ability to visualize structures in real-time (which permits evaluations of the movement of structures such as the beating heart or blood flow) and the fact that it does not use ionizing radiation so it does not cause harm to the body (unlike X-rays).

Professionals who perform DMS examinations are commonly referred to as “sonographers”, “vascular technologists” (sonographers who specialize in evaluating blood vessels and blood flow) and “echocardiographers” (sonographers that evaluate the heart).



### There are several areas of specialization in the field of DMS including:

**General sonography** - evaluation of the organs and blood vessels in the abdomen including the liver, spleen, kidneys, pancreas and aorta as well as other structures such as the thyroid gland and testes

**Obstetrics** - evaluation of the fetus and womb

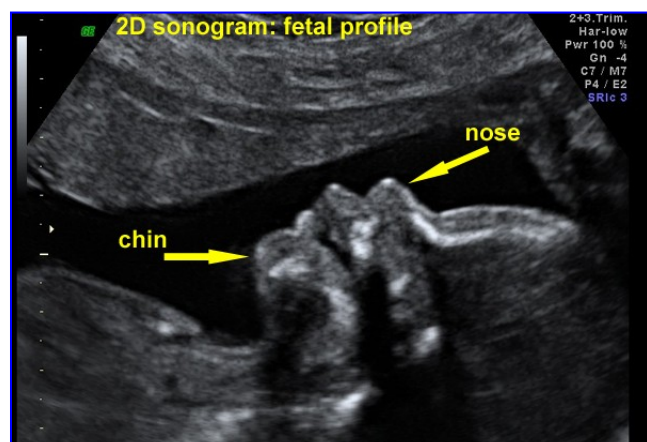
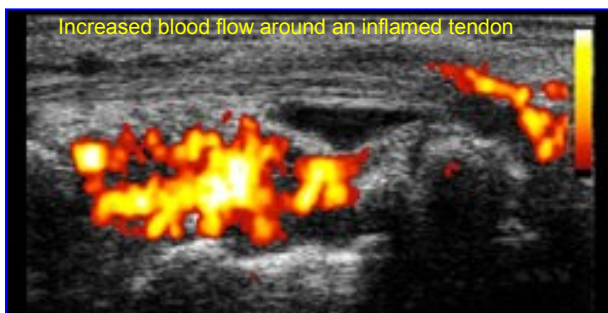
**Gynecology** - evaluation of the female reproductive system

**Breast** - evaluation of the breast

**Echocardiography** - evaluation of the anatomy of the heart including the heart muscle and valves as well as blood flow through the heart and major blood vessels

**Vascular** - evaluation of blood vessels and blood flow

**Musculoskeletal** - evaluation of joints, tendons, ligaments and muscles

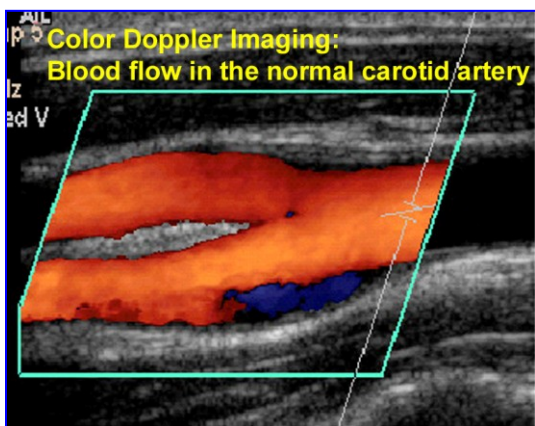


## What does a sonographer do?

The diagnostic medical sonographer is a highly-skilled professional who uses sonography systems to create images of structures inside the human body that are used by physicians to make medical diagnoses. The process involves placing a small device called a transducer against the patient's skin near the body area to be imaged. The transducer sends high frequency sound waves into the body that reflect off the internal structures. The transducer then detects the reflected sound waves or echoes. The echoes are processed by a computer to result in a real-time display or still image on a video monitor. Doppler ultrasound technology is used to detect blood flow which can be visualized on a monitor. Doppler ultrasound also provides audible signals that can be heard via a speaker or headphones.



Sonographers have extensive, direct patient contact. Therefore, they must be able to interact compassionately and effectively with people who range from healthy to critically ill and newborns to the elderly.



### The most common activities that sonographers do are:

1. Obtain an accurate patient history
2. Perform sonography examinations and obtain diagnostic images
3. Use independent judgment to determine which images are needed for a diagnosis and which additional examinations may be indicated
4. Provide an oral or written description of the exam findings to the physician and aid in their interpretations
5. Collaborate with physicians and other members of the healthcare team.

## What are the career opportunities?

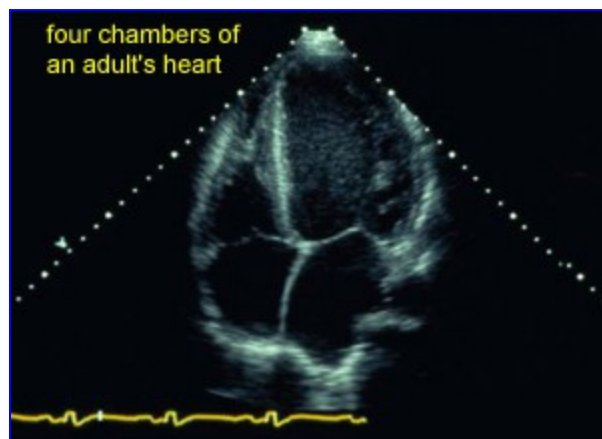
Sonography is a dynamic profession that has grown significantly over the past 20 years. With rapidly developing new technologies and increased use of DMS growth is projected to continue well into the future with numerous employment opportunities for qualified sonographers in both urban and rural areas nationwide. In addition to clinical employment, career opportunities for experienced sonographers exist in education, administration, research and with commercial companies as education/application specialists, sales representatives and technical advisors.

## Where do sonographers work?

Sonography professionals work in a variety of settings including hospitals, clinics, private physician offices, public health facilities and research laboratories.

## What are the salaries for sonographers?

Salaries for sonographers are competitive with, or higher than, those of other professionals who have similar levels of education. In 2008, starting salaries for sonographers were approximately \$46,000 per year and the median yearly salary was approximately \$67,000. Salaries vary depending on years of experience, number of specialties practiced, employment setting and geographic location.



## ***How long does it take to become a diagnostic medical sonographer?***

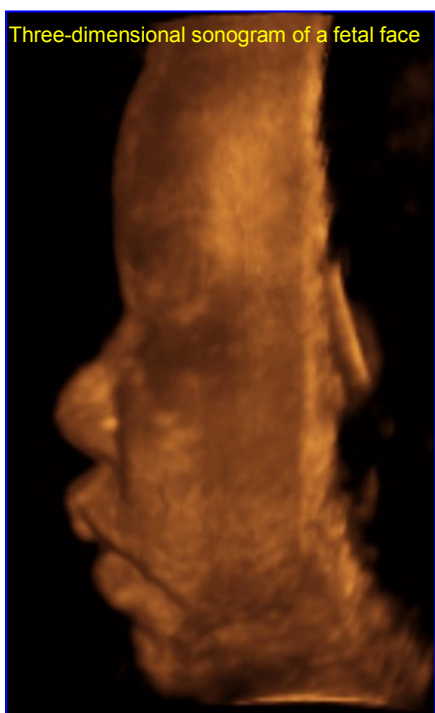
Comprehensive DMS education programs vary in length from one to four years depending on the degree or certificate awarded. Prerequisites needed to enter a training program vary from a high school diploma or GED to specific qualifications in a related allied health profession such as nursing.

When seeking a reputable program, candidates should consult the Commission on Accreditation of Allied Health Education Programs (CAAHEP) which accredits diagnostic medical sonography programs in the United States. A list of accredited programs is available on CAAHEP's web site (see below).

**IMPORTANT NOTE:** Individuals that are interested in a career in DMS will need to get certified (which requires passing a series of tests) to demonstrate their competency. The most recognized certifying organization is the *American Registry for Diagnostic Medical Sonography* (ARDMS; see website below). The prerequisites to take ARDMS examinations vary by one's level of education, experience and other factors. It is strongly recommended that individuals review the current ARDMS prerequisites and attend an educational program that will provide them with the prerequisites needed to take the certification examinations.

## ***For additional information***

Listed below are websites that have information relevant to careers in DMS.



- 1) *American Institute of Ultrasound in Medicine:*  
<http://www.aium.org>
- 2) *American Registry for Diagnostic Medical Sonography:*  
<http://www.ardms.org>
- 3) *American Society of Echocardiography:* [www.asecho.org](http://www.asecho.org)
- 4) *Commission on Accreditation for Allied Health Education Programs:* <http://www.caahep.org>
- 5) *College Careers web site:*  
<http://www.collegegrad.com/careers/proft92.shtml>
- 6) *Society for Vascular Ultrasound:* [www.svunet.org](http://www.svunet.org)
- 7) *Society of Diagnostic Medical Sonography:*  
<http://www.sdms.org>
- 8) *Distance learning programs:*  
<http://www.sdms.org/career/distancelearning.asp#dms>
- 9) *The Joint Review Committee on Education in Diagnostic Medical Sonography:* <http://www.jrcdms.org>
- 10) *U.S. Government Bureau of Labor and Statistics* (data on DMS employment outlook, salaries, etc):  
<http://www.bls.gov/oco/ocos273.htm>

**If you have any questions regarding DMS careers please contact:**

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***Good luck in your future – regardless of your career choice!***