

# Scope of Practice and Clinical Standards for the Diagnostic Medical Sonographer

*April 13, 2015*



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## SCOPE OF PRACTICE REVISION PROCESS

In May 2013, representatives of sixteen organizations came together to begin the process of revising the existing Scope of Practice and Clinical Practice Standards. Thus began a process that engaged the participating organizations in an unrestricted dialogue about needed changes. The collaborative process and exchange of ideas has led to this document, which is reflective of the current community standard of care. The current participants recommend a similar collaborative process for future revisions that may be required as changes in ultrasound technologies and healthcare occur.

## PARTICIPATING ORGANIZATIONS

The following organizations participated in the development of this document. Those organizations that have formally endorsed the document are identified with the “†” symbol. Supporting organizations are identified with the “\*” symbol.

- American College of Radiology (ACR)
- American Congress of Obstetricians and Gynecologists (ACOG) \*
- American Institute of Ultrasound in Medicine (AIUM)
- American Registry for Diagnostic Medical Sonography (ARDMS)
- American Registry of Radiologic Technologists (ARRT)
- American Society of Echocardiography (ASE) †
- American Society of Radiologic Technologists (ASRT)
- Cardiovascular Credentialing International (CCI)
- Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS)
- Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT)
- Society of Diagnostic Medical Sonography (SDMS) †
- Society of Radiologists in Ultrasound (SRU)
- Society for Maternal-Fetal Medicine (SMFM)
- Society for Vascular Surgery (SVS) †
- Society for Vascular Ultrasound (SVU) †
- Sonography Canada (formerly the Canadian Society of Diagnostic Medical Sonography)

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## LIMITATION AND SCOPE

Federal and state laws, accreditation standards, and lawful facility policies and procedures supersede these standards. A diagnostic medical sonographer, within the boundaries of all applicable legal requirements and restrictions, exercises individual thought, judgment, and discretion in the performance of an examination taking into account the facts of the individual case.

This document is intended to set forth the standards in major areas of the diagnostic medical sonographer's responsibilities. It does not cover all areas or topics that may present themselves in actual practice. In addition, technological changes or changes in medical practice may require modification of the standards.

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## SCOPE OF PRACTICE AND CLINICAL STANDARDS FOR THE DIAGNOSTIC MEDICAL SONOGRAPHER

The purpose of this document is to define the scope of practice and clinical standards for diagnostic medical sonographers and describe their role as members of the healthcare team. Above all else, diagnostic medical sonographers act in the best interest of the patient.

### DEFINITION OF THE PROFESSION

Diagnostic medical sonography is a multi-specialty profession comprised of abdominal sonography, breast sonography, cardiac sonography, obstetrics/gynecology sonography, pediatric sonography, phlebology sonography, vascular technology/sonography, and other emerging clinical areas. These diverse areas all use ultrasound as a primary technology in their daily work.

The diagnostic medical sonographer is an individual who provides patient care services using ultrasound and related diagnostic procedures. The diagnostic medical sonographer must be educationally prepared and clinically competent as a prerequisite to professional practice. Demonstration and maintenance of competency through certification by a nationally recognized sonography credentialing organization is the standard of practice in sonography, and maintenance of certification in all areas of practice is endorsed.

The diagnostic medical sonographer:

- Functions as a delegated agent of the physician; and
- Does not practice independently.

Diagnostic medical sonographers are committed to enhanced patient care and continuous quality improvement that increases knowledge and technical competence. Diagnostic medical sonographers use independent, professional, ethical judgment, and critical thinking to safely perform diagnostic sonographic procedures.

A fundamental approach to the safe use of diagnostic medical ultrasound is to apply elements of the *As Low As Reasonably Achievable* (“ALARA”) Principle including lowest output power and the shortest scan time consistent with acquiring the required diagnostic information. The diagnostic medical sonographer uses proper patient positioning, tools, devices, equipment adjustment, and ergonomically correct scanning techniques to promote patient comfort and prevent compromised data acquisition or musculoskeletal injury to the diagnostic medical sonographer.

## DIAGNOSTIC MEDICAL SONOGRAPHER CERTIFICATION/CREDENTIALING

A diagnostic medical sonographer must be competent in any sonographic procedure they perform. Certification by a sonography credentialing organization that is accredited by National Commission of Certifying Agencies (NCCA) or the American National Standards Institute - International Organization for Standardization (ANSI - ISO) represents “standard of practice” in diagnostic sonography.

Despite the commonality of ultrasound technology across the field of sonography, the bodies of knowledge, technical skills, and competencies of sonographers in different areas of sonography specialization are markedly different. If performing procedures in any of the following primary areas of sonography specialization, a diagnostic medical sonographer must demonstrate competence in the specialty area(s) through appropriate education, training, and certification:

1. Abdominal Sonography
2. Obstetrical/Gynecological Sonography
3. Cardiac Sonography
4. Vascular Technology/Sonography

If the diagnostic medical sonographer specializes or regularly performs procedures in secondary area(s) of specialization (e.g., breast sonography, fetal cardiac sonography, musculoskeletal sonography, pediatric sonography, phlebology sonography, etc.), the diagnostic medical sonographer should demonstrate competence through certification in the area(s) of practice by a nationally recognized sonography credentialing organization. Employers and accrediting organizations should require maintenance of diagnostic medical sonographer certification in all areas of practice.

NOTE: Temporary or short-term situational exceptions to the certification standard of practice may be necessary (in accordance with applicable federal and state laws and facility policy). For example:

1. Students enrolled in an accredited educational program who are providing clinical services to patients under the direct supervision of an appropriately certified sonographer or other qualified healthcare provider;
2. Sonographers who are cross-training in a new sonography specialty area under the direct supervision of an appropriately certified sonographer or other qualified healthcare provider; and
3. Sonographers who are providing emergency assessment in an urgent care environment where an appropriately certified sonographer is not available in a timely manner.

# DIAGNOSTIC MEDICAL SONOGRAPHY CLINICAL STANDARDS

Standards are designed to reflect behavior and performance levels expected in clinical practice for the diagnostic medical sonographer. These clinical standards set forth the principles that are common to all of the specialties within the larger category of the diagnostic sonography profession. Individual specialties or clinical areas may extend or refine, but not limit, these general principles according to their specific practice requirements.

## SECTION 1

### STANDARD – PATIENT INFORMATION ASSESSMENT AND EVALUATION:

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- 1.1 Information regarding the patient's past and present health status is essential in providing appropriate diagnostic information. Therefore, pertinent data related to the diagnostic sonographic procedure should be collected and evaluated to determine its relevance to the examination. The diagnostic medical sonographer:
  - 1.1.1 Verifies patient identification and that the requested examination correlates with the patient's clinical history and presentation. In the event that the requested examination does not correlate, either the supervising physician or the referring physician will be notified.
  - 1.1.2 In compliance with privacy and confidentiality standards, interviews the patient or their representative, and/or reviews the medical record to gather relevant information regarding the patient's medical history and current presenting indications for the study.
  - 1.1.3 Evaluates any contraindications, insufficient patient preparation, and the patient's inability or unwillingness to tolerate the examination and associated procedures.

### STANDARD – PATIENT EDUCATION AND COMMUNICATION:

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- 1.2 Effective communication and education are necessary to establish a positive relationship with the patient or the patient's representative, and to elicit patient cooperation and understanding of expectations. The diagnostic medical sonographer:
  - 1.2.1 Communicates with the patient in a manner appropriate to the patient's ability to understand. Presents explanations and instructions in a manner that can be easily understood by the patient and other healthcare providers.
  - 1.2.2 Explains the examination and associated procedures to the patient and responds to patient questions and concerns.
  - 1.2.3 Refers specific diagnostic, treatment, or prognosis questions to the appropriate physician or healthcare professional.

**STANDARD – ANALYSIS AND DETERMINATION OF PROTOCOL FOR THE DIAGNOSTIC EXAMINATION:**

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- 1.3** The most appropriate protocol seeks to optimize patient safety and comfort, diagnostic quality, and efficient use of resources, while achieving the diagnostic objective of the examination. The diagnostic medical sonographer:
- 1.3.1 Integrates medical history, previous studies, and current symptoms in determining the appropriate diagnostic protocol and tailoring the examination to the needs of the patient.
  - 1.3.2 Performs the examination under appropriate supervision, as defined by the procedure.
  - 1.3.3 Uses professional judgment to adapt the protocol and consults appropriate medical personnel, when necessary, to optimize examination results.
  - 1.3.4 Confers with the supervising physician, when appropriate, to determine if intravenous contrast is necessary to enhance image quality and obtain additional diagnostic information.
  - 1.3.5 With appropriate education and training, uses proper technique for intravenous line insertion and administers intravenous contrast according to facility protocol.

**STANDARD – IMPLEMENTATION OF THE PROTOCOL:**

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- 1.4** Quality patient care is provided through the safe and accurate implementation of a deliberate protocol. The diagnostic medical sonographer:
- 1.4.1 Implements a protocol that falls within established procedures.
  - 1.4.2 Elicits the cooperation of the patient to carry out the protocol.
  - 1.4.3 Adapts the protocol according to the patient's disease process or condition.
  - 1.4.4 Adapts the protocol, as required, according to the physical circumstances under which the examination must be performed (e.g., operating room, sonography laboratory, patient's bedside, emergency room, etc.).
  - 1.4.5 Monitors the patient's physical and mental status.
  - 1.4.6 Adapts the protocol according to changes in the patient's clinical status during the examination.
  - 1.4.7 Administers first aid or provides life support in emergency situations.



- 1.4.8 Performs basic patient care tasks, as needed.
- 1.4.9 Recognizes sonographic characteristics of normal and abnormal tissues, structures, and blood flow; adapts protocol as appropriate to further assess findings; adjusts scanning technique to optimize image quality and diagnostic information.
- 1.4.10 Analyzes sonographic findings throughout the course of the examination so that a comprehensive examination is completed and sufficient data is provided to the supervising physician to direct patient management and render a final interpretation.
- 1.4.11 Performs measurements and calculations according to facility protocol.

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**STANDARD – EVALUATION OF THE DIAGNOSTIC EXAMINATION RESULTS:**

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- 1.5** Careful evaluation of examination results in the context of the protocol is important to determine whether the goals have been met. The diagnostic medical sonographer:
  - 1.5.1 Establishes that the examination, as performed, complies with applicable protocols and guidelines.
  - 1.5.2 Identifies and documents any limitations to the examination.
  - 1.5.3 Initiates additional scanning techniques or procedures (e.g., administering contrast agents) when indicated.
  - 1.5.4 Notifies supervising physician when immediate medical attention is necessary, based on examination findings and patient condition.

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**STANDARD – DOCUMENTATION:**

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- 1.6** Clear and precise documentation is necessary for continuity of care, accuracy of care, and quality assurance. The diagnostic medical sonographer:
  - 1.6.1 Provides timely, accurate, concise, and complete documentation.
  - 1.6.2 Provides an oral or written summary of findings to the supervising physician.

## **SECTION 2**

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**STANDARD – IMPLEMENT QUALITY IMPROVEMENT PROGRAMS:**

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- 2.1** Participation in quality improvement programs is imperative. The diagnostic medical sonographer:
  - 2.1.1 Maintains a safe environment for patients and staff.

- 2.1.2 Performs quality improvement procedures to determine that equipment operates at optimal levels and to promote patient safety.
- 2.1.3 Participates in quality improvement programs that evaluate technical quality of images, completeness of examinations, and adherence to protocols.
- 2.1.4 Compares facility quality improvement standards to external metrics, such as accreditation criteria, evidence based literature, or accepted guidelines.

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**STANDARD - QUALITY OF CARE:**

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- 2.2 All patients expect and deserve optimal care. The diagnostic medical sonographer:
  - 2.2.1 Works in partnership with other healthcare professionals.
  - 2.2.2 Reports adverse events.

**SECTION 3**

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**STANDARD – SELF-ASSESSMENT:**

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- 3.1 Self-assessment is an essential component in professional growth and development. Self-assessment involves evaluation of personal performance, knowledge, and skills.
  - 3.1.1 Recognizes strengths and uses them to benefit patients, coworkers, and the profession.
  - 3.1.2 Recognizes weaknesses and limitations and performs procedures only after receiving appropriate education and supervised clinical experience in any deficient areas.

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**STANDARD – EDUCATION:**

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- 3.2 Advancements in medical science and technology occur very rapidly, requiring an on-going commitment to professional education. The diagnostic medical sonographer:
  - 3.2.1 Obtains and maintains appropriate professional certification/credential in areas of clinical practice.
  - 3.2.2 Recognizes and takes advantage of opportunities for educational and professional growth.

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**STANDARD – COLLABORATION:**

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- 3.3 Quality patient care is provided when all members of the healthcare team communicate and collaborate efficiently. The diagnostic medical sonographer:
  - 3.3.1 Promotes a positive and collaborative atmosphere with members of the healthcare team.

- 3.3.2 Communicates effectively with members of the healthcare team regarding the welfare of the patient.
- 3.3.3 Shares knowledge and expertise with colleagues, patients, students, and members of the healthcare team.

## **SECTION 4**

### **STANDARD – ETHICS:**

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- 4.1** All decisions made and actions taken on behalf of the patient adhere to ethical standards. The diagnostic medical sonographer:
  - 4.1.1 Adheres to accepted professional ethical standards.
  - 4.1.2 Is accountable for professional judgments and decisions.
  - 4.1.3 Provides patient care with equal respect for all.
  - 4.1.4 Respects and promotes patient rights, provides patient care with respect for patient dignity and needs, and acts as a patient advocate.
  - 4.1.5 Does not perform sonographic procedures without a medical indication, except in educational activities.
  - 4.1.6 Adheres to this scope of practice and other related professional documents.

## APPENDIX A. GLOSSARY

For purposes of this document, the following definition of terms applies:

**ALARA:** an acronym for *As Low As Reasonably Achievable*, the fundamental principle for the safe use of diagnostic medical ultrasound is to use the lowest output power and the shortest scan time consistent with acquiring the required diagnostic information.

**Certification:** Designates that an individual has demonstrated through successful completion of a specialty certification examination the requisite knowledge, skills, and competencies and met other requirements established by a sonography credentialing organization. Certification also is intended to measure or enhance continued competence through recertification or renewal requirements.

**Credential:** Means the recognition awarded to an individual who has met the initial (and continuing) knowledge, skills, and competencies requirements of a sonography credentialing organization.

**Education:** The process undertaken to gain knowledge of facts, principles, and concepts. Education encourages problem solving, critical thinking, and application of the facts, principles, and concepts learned.

**Examination:** One or more sonographic or related procedures performed to obtain diagnostic information that aids in the verification of health or identification of disease or abnormality.

**Interpreting Physician:** The physician (e.g., radiologist, cardiologist, gynecologist, obstetrician, vascular surgeon, etc.) who evaluates the results of the diagnostic examination and provides the final report of the findings that is included in the patient's medical record.

**Procedure:** A specific action or course of action to obtain specific diagnostic information; often associated with a reimbursement procedure code.

**Protocol:** A written, standardized series of steps that are used to acquire data when performing a diagnostic sonographic examination and its associated procedures.

**Referring Physician:** A physician who orders a diagnostic examination or refers the patient to a specialized facility for a diagnostic examination. In some clinical environments, the referring and supervising physician may be the same person.

**Sonography Credentialing Organization:** An organization that is accredited by National Commission of Certifying Agencies (NCCA) or the American National Standards Institute - International Organization for Standardization (ANSI – ISO) that awards sonography credentials upon successful completion of competency-based certification examination(s). Also known as a sonography “registry.”

**Supervising Physician:** A physician who provides overall medical direction of the sonographer but whose physical presence may not necessarily be required during the performance of a diagnostic examination. The supervising physician is available to review examination procedures and to offer direction and feedback. In some clinical environments, the supervising and interpreting physician may be the same person.

**Training:** The successful completion of didactic and clinical education necessary to properly perform a procedure in accordance with accepted practice standards. While closely related to education, training is undertaken to gain a specific skill.