I’m an Emergency Medicine Resident with a Special Interest in Ultrasonography: Should I Take a Certification Examination?

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I am a second-year emergency medicine resident and I have been interested in ultrasonography since the beginning of my residency. During my internship, I realized that integrating this technology into my patient care helped my clinical practice. Because critical care emergency medicine is my primary interest, I wondered whether there was a way of distinguishing myself in terms of proficiency in performing and interpreting ultrasonographs that did not require me to complete a second fellowship. One day, at the bedside of an unstable patient who had fainted, my senior resident was performing a focused ultrasonograph of the abdominal aorta, and he casually mentioned how impressed he was by residents who obtained their Registered Diagnostic Medical Sonographer (RDMS) certification during their residency years. RDMS certification during residency? I hadn’t realized I could obtain this certification without completing an ultrasonographic fellowship.

The terms competence, credential, accreditation, and certification are often used without a clear understanding of the differences between them. Competence is the recognition of ability or a skill. A resident can be deemed competent to perform a given emergency ultrasonographic examination, but competence does not grant that resident the credential to perform the skill in a clinical setting. An institution grants recognition of competence through a credentialing process. Because credentials are hospital specific, they are not necessarily transferable from one institution to another. An accreditation is conferred by a national body to a hospital or department when a certain standard has been met. For example, the American Council of Graduate Medical Education accredits emergency medicine residency programs. As such, accreditation does not apply directly to the individual. A certification is an official document attesting to a level of achievement of training. The American Registry for Diagnostic Medical Sonography (ARDMS) confers an RDMS certificate.

Bedside sonography for diagnosis and procedural guidance is not exclusive to emergency medicine. Many professional medical societies have written specialty-specific guidelines for ultrasonographic use. However, a standard specialty-specific certification for emergency ultrasonography does not currently exist. An informal survey conducted by the American College of Emergency Physicians (ACEP) emergency ultrasonographic listerv suggests that approximately a third of participating emergency ultrasonographic fellowship programs (20/66) require their graduating fellows to obtain the RDMS certificate, and another quarter (15/66) encourage but do not require the certificate. About half of responding emergency ultrasonographic directors, academic and community based, actually hold an RDMS certificate (64/117) (personal communication, July 2010, ACEP Ultrasound listerv).

The ARDMS is an independent organization providing a national certificate in diagnostic ultrasonography. The organization defines multiple pathways of certification. Emergency medicine residents are eligible to apply for the RDMS examination through prerequisite pathway 4A1 of the ARDMS. This pathway applies to physicians who complete an American Council of Graduate Medical Education or Royal College of Physicians and Surgeons of Canada–accredited residency with didactic and clinical ultrasonographic training. The examinee must complete a minimum of 800 studies in the area of application (eg, abdomen, breast, neurosonology, obstetrics and gynecology, fetal echocardiography) and a clinical verification form signed by an RDMS-certified practitioner attesting to the applicant’s demonstration of core sonographic skills performed on actual patients. Finally, the eligible residents seeking an RDMS must sit for 2 standardized examinations: the Sonography Principles & Instrumentation Examination and a specialty examination, most commonly the Abdomen Specialty Examination. The Sonography Principles & Instrumentation examination consists of 120 multiple-choice questions covering “basic physical principles and instrumentation knowledge.” The 3-hour Abdomen Specialty Examination tests knowledge of abdominal sonography and consists of 170 questions. An overview of both examinations and their content can be found on the ARDMS Web site. Other specialty examinations are available, such as Registered Vascular Technologist and Registered Physician in Vascular Interpretation. Individuals with a strong interest in, for example, critical care may opt to apply for the Registered Diagnostic Cardiac Sonographer specialty examination because its focus on echocardiograms rather than abdominal ultrasonography could prove more beneficial. The requirements to sit for the Registered Diagnostic Cardiac Sonographer...
emergency ultrasonography. Subsequently, both SAEM and the American Council of Graduate Medical Education mandated all emergency medicine residents to attain competency in the use of emergency ultrasonography. In 1991, the Society for Academic Emergency Medicine (SAEM) endorsed this position and recommended the development of a competency in emergency ultrasonography for all graduating emergency medicine residents. Because emergency ultrasonography is one of many procedures in which the emergency physician seeking to complete minimum emergency ultrasonographic graduation requirements. The resident’s ARDMS referral letter, an integral part of the requirements for RDMS-certification, must be signed and completed by an RDMS-certified individual. Although the ACEP guidelines are clearly specific to emergency medicine, absolute qualifications of ultrasonographic instructors and directors for residency programs do not currently exist. Finally, the RDMS-certified resident will have successfully passed 2 rigorous standardized examinations.

Nevertheless, RDMS certification has one major limitation for emergency medicine residents. Because it was designed as an examination for ultrasonographic technicians rather than physicians, the certification does not emphasize medical knowledge, interpretive skills, or clinical implications. It is an examination designed for sonographers rather than clinicians. It does not test interpretation, the key skill required of a physician. As such, the content of the RDMS examination is not directly relevant to what an emergency medicine resident must integrate for clinical decisionmaking.

Furthermore, although an RDMS-certified individual must sign an ARDMS referral letter, there is no requirement that a referral include personal review of studies performed by the person referred or that the certifying individual have any emergency ultrasonographic training or credentials. There is little description of what studies must be performed and what criteria must be met to count toward the certification. This is in stark contrast with the imaging criteria delineated in the ACEP compendium. Theoretically, one could obtain the certificate without having structured feedback or education, despite the number of examinations performed.

For these reasons, although some regard the RDMS certification as a better recognition of ultrasonographic skill, this recognition may be transient as emergency ultrasonographic qualification standards mature outside the ARDMS.
At this point in the evolution of emergency ultrasonography, what might be the arguable downsides to obtaining an RDMS? A few challenges exist. For American or Canadian medical school graduates enrolled in emergency medicine residencies with emergency ultrasonographic education, the current RDMS certification requires that the minimal number of ultrasonographic studies meet the requisite 800.9 The applicant must also be willing to personally finance, prepare for, and complete the 2 RDMS written tests. The examination registration costs $200, and a $60 annual certification renewal fee is required. A significant amount of time must be spent obtaining the requisite number of studies and studying for the examinations, which may be challenging during residency. Emergency physicians and other health care providers may not appreciate that the RDMS is a technologist certification and not a testimony to interpretation and integration skills. Given these limitations, does popularization of RDMS certification simply contribute to a merit badge trend that undermines the concept that residency training is sufficiently comprehensive for the practice of emergency medicine?

In 2005, the ACEP board of directors reviewed and approved a consensus document developed by the ACEP Section of Emergency Ultrasound on emergency ultrasonographic fellowship guidelines. Although this document makes no mention of a certifying examination, it does state that “a minimum of 800 ultrasound examinations per year must be performed by the emergency ultrasonographic fellow” as a graduation requirement. Among the other provisions suggested for fellowship training are the initiation and completion of at least 1 research project and its presentation at a national meeting. Ultrasonographic fellows are also directed to carry the responsibility of teaching residents and faculty through both hands-on and didactic lecturing.19 Emergency ultrasonographic fellowship programs provide training in ways of establishing and running ultrasonographic divisions and fellowships. This usually involves administrative duties such as the credentialing of current faculty, the integration of quality control measures, and the implementation of systems for billing. Significantly more mentoring occurs with fellowship training (eg, video review, bedside teaching, technique review, interpretive skills).20

Consequently, completing a fellowship in emergency ultrasonography has advantages when one considers the limitations of an RDMS certification alone. Emergency ultrasonographic fellowships prepare trainees for administrative, research, emerging application development, and educational skill sets for furthering the subspecialty.

In conclusion, the RDMS certification, although clearly not designed to represent competence in emergency ultrasonographic interpretation, does imply interest and dedication when obtained by an emergency medicine resident. At this time in the evolution of emergency ultrasonography, it may also confer an advantage in the job market. Emergency medicine residents should, however, feel very confident that current emergency ultrasonographic training is adequate to attain competency in the performance and interpretation of all the core emergency ultrasonographic applications. Because emergency ultrasonographic training was developed by emergency physicians, for emergency physicians, it will always have an edge on organizations such as ARDMS that are not endorsed by American Board of Emergency Medicine. Because a fellowship integrates the technical skills of ultrasonography with the clinical practice of emergency medicine, individuals with a strong interest in developing an emergency ultrasonographic–focused career should seek fellowship training.

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**REFERENCES**


