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The American Society of Emergency Radiology: Growing Recognition of Emergency Imaging

Interviewee

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The american society of emergency radiology is 25 years old. What have been the major achievements of the society in that time?

Twenty-five years ago emergency radiology was almost a non-existent subspecialty of radiology. A small group of radiologists who were actively practising emergency imaging, mostly working in trauma centres, recognised that this was going to be a growing and important sub-specialty, and that it involves special expertise. That's why the Society was founded. The past 25 years have largely been spent working towards gaining recognition for emergency radiology as a distinct discipline in radiology, advancing and promoting it as a subspecialty and helping to educate the radiology community as a whole in order to provide better emergency imaging care.

The Society now numbers close to 1000 members. In order to accomplish this, education needed to be improved for residents, and development of fellowship programmes had to occur in order to have radiologists who were trained in the intricacies of trauma imaging and emergent imaging. The Society developed an educational curriculum, and has a core curriculum project available on its website that provides teaching materials for residency programmes and for radiologists in general to learn more about trauma and emergency imaging.

The Society's Annual Meeting has developed into an outstanding educational course for emergency imaging in the United States. Our annual CME course, the Trauma Imaging Head to Toe course, has been extremely popular and well-received.

The Society has reached out to the international community, and we have a significant number of international members who have made major

contributions to the Society. There is much work to be done internationally, because if emergency imaging is considered to be in its youth here in the United States, it is in its infancy in many parts of the world.

The Society has just begun to get involved in research and collaborative efforts to promote standards for imaging in emergency departments.

Another major accomplishment is our journal, Emergency Radiology, which goes to 8000 institutions. The quality of submissions and size of the journal has improved substantially over the past few years, under the editorship of Dr. Ronald Zagoria.

What do you see as the role of the society in the future?

We will continue to focus on international outreach. In recent years, we have seen the development of emergency radiology societies, including the European Society of Emergency Radiology, the Asian Society of Trauma & Emergency Radiology, and also efforts in India, Scandinavia, Australia and the UK. The members of the international societies met at the 2013 meeting of RSNA, where we talked about the possibility of developing an international consortium to share ideas about standards and resources. A global project would really have value.

We want to continue to grow as a subspecialty in the United States. We have seen the emergence of new fellowship programmes, which is critical for the expansion of the discipline. Increased number of fellowship positions also gives a greater opportunity for international emergency radiologists to come to the U.S. to be trained.

We would like to gain formal recognition by the American Board of Radiology as a distinct subspecialty for the purposes of Board certification and maintenance of certification. The special knowledge and skills required to practise high quality emergency imaging should be reflected in our certification examinations. We are working with the American Board of Radiology to get more emergency radiology material included in the examination process, and we hope eventually to have separate emergency radiology testing modules..

What are the biggest challenges in emergency radiology currently?

First, a greater level of recognition as a sub-specialty. There are many radiology practices and departments that think of emergency radiologists as general radiologists that are willing to work at night. They do not really recognise the special expertise that is required. Academic departments exist that do not have a separate section of emergency radiology. We are promoting this concept with academic department chairs, in the hope that they will recognise that because Emergency Radiology is a critical area in which we need to train our residents, it is vital to have faculty with that subspecialty expertise to provide resident training and develop fellowship programmes. If we want to attract people to Emergency Radiology as a subspecialty, we need to instruct residents early on in their residency training. We need to include emergency imaging as an important part of our residency training programmes.

To be recognised as a legitimate subspecialty, we need to define the role of emergency radiologists within the healthcare system and the radiology community. That has been difficult for emergency radiology, because radiologists who identify themselves as emergency radiologists practise in a wide variety of settings. Academicians often practise in Level I trauma centres in large urban centres, other emergency radiologists work in community hospitals with smaller emergency departments, and some provide teleradiology services that help to cover the night-time services for departments that don't have dedicated emergency radiologists on site. Military radiologists also align themselves with our subspecialty, because they often practise in a combat setting that creates special forms of major trauma. It is difficult to come up with one definition of what emergency radiology is and what precise knowledge a radiologist who practises emergency imaging should acquire. Development of a standardised Emergency Radiology curriculum is an ongoing challenge. We are currently polling our membership to get a sense of who we are, where we practise and what kind of specialty expertise is most needed for our members.

Another challenge is the growing need for 24-hour subspecialty and emergency radiology coverage. Our emergency medicine colleagues have developed effective models of practice that ensure an even standard of care for patients over the 24 hour day, and we are studying these models carefully. On-site availability of emergency radiologists is becoming more common in large emergency centres, but is still a challenge for smaller radiology groups. Teleradiology is a vital part of after-hours coverage for some practices, but we do not want to lose sight of the extra value of the on-site radiologist as a member of the emergency care team in hospitals and emergency centres.

What qualities does an emergency radiologist need?

In general, it is important for anyone who thinks they want to do emergency radiology to enjoy a fast-paced, interactive, multi-modality practice. They have to be able to deal with stressful situations. Activity in a trauma centre can get very intense with little notice, and the evening and night-time hours are often the busiest time..Emergency radiologists have to be able to make major life or death decisions about imaging studies quickly and confidently. They must have good communication skills. Emergency radiologists are most effective when they work as an integral part of the emergent care team. Frequently they physically are located in the patient care area, helping to make life-saving decisions about diagnosis and

patient care.

Do you see a use for decision support in the emergency department?

I certainly think there is an important role for decision support. Many of the conditions that bring patients into the emergency department can look quite similar to one another clinically. There is potential for overuse of imaging without sound, evidence-based criteria to help decide when and what type of imaging should be used. There have been efforts to create decision rules for many different types of imaging. We have well-accepted decision rules for many clinical problems, such as extremity and cervical spine trauma. Decision rules are being developed for some of the more complex clinical questions, such as for abdominal pain or chest pain. A high percentage of chest CT scans for pulmonary embolism will be negative without good prediction rules. As a paediatric radiologist I am encouraged by the decision rules that are being developed for head CT and abdomen CT in children. Development and validation of clinical decision rules for imaging requires a collaborative effort. ASER looks forward to participating in a consensus conference organised by the Society for Academic Emergency Medicine in 2015, which will look at optimising the utilisation of diagnostic imaging in the emergency department.

Could you comment on the perception that CT is over-used in emergency radiology?

There are areas where CT can be overused, especially when decision rules are in existence and are not being applied. In paediatrics, there are many efforts to streamline the use of CT and use alternative studies such as ultrasound or MRI as an initial study for children rather than CT. CT is vital for many trauma patients, but in some medical conditions there are opportunities to decrease CT use and make better choices. In general, I think the benefits of using CT out-weigh the risks of over-usage.

You have an interest in ultrasound in paediatric emergencies. Could you tell us more about your research in this area?

It has long been recognised that ultrasound (US) is a very valuable tool in paediatrics. US is well suited for small patients with less body fat, allowing many parts of the anatomy to be very accessible with US. Much of my interest has been in US of the gastrointestinal tract. Evidence has shown that US is by far the best tool for diagnosing conditions like pyloric stenosis and intussusception, and often is the best initial study for evaluating inflammatory conditions such as appendicitis in children.

US has been quickly adopted as a bedside tool, which is a concern for many radiologists Ultrasound is a very operator-dependent modality that requires considerable training and experience. Ultrasound has an excellent value at bedside, for line placement, looking for pleural effusions, and for post examinations of trauma patients. I think there will be an increasing use of US at bedside during the physical examination, and recently medical students are starting to be trained in simple US techniques. US is a tool that's here to stay in emergency medicine and emergency radiology. US as practised by radiologists in the United States is largely performed by technologists, with the radiologist as back-up for problem cases or coming in for certain difficult diagnoses. This has caused challenges for training our residents. We need to be careful to maintain the level of training of our radiology residents to ensure they don't lose that skill set.

With the implementation of the Affordable Care Act in the United States, what's your view on the effect it will have on utilisation of emergency departments?

There are still a lot of unknowns and there is conflicting data about whether the ACA will increase or decrease use of emergency rooms (ER). For example, Massachusetts saw a decrease in use of the ER (Miller 2012-2013), while Oregon saw an increase in use by Medicaid patients (Taubman et al. 2014). There are many other things that need to change in order to substantially alter the way emergency departments are used in this country. The ER is still the most efficient place to get your care, the one place you can get care any time of the night or day. Even if patients have insurance and the ability to go to a primary care physician, if they have difficulty getting an appointment or if they have symptoms that develop when offices are not open, they are more likely to use the emergency department. A culture has developed in the U.S. that causes patients to go to the emergency department for every type of healthcare problem. We need to change that culture. We must ensure that an adequate number of primary care physicians are available to care for the increased number of insured patients. I suspect there will be an increase in use of ERs before we see a decrease. The potential benefit of the new healthcare laws is that emergency departments may get more adequate compensation for the patient care that they provide. Currently, many of the patients in the emergency room have no insurance and no ability to pay their medical bills. Over time hopefully practices will develop that will make it easier for patients to get healthcare at a convenient time so they don't feel compelled to use the emergency room for non-emergent conditions.

HealthManagement is a journal devoted to multidisciplinary working. Can you comment on the importance of multidisciplinary working for the emergency radiologist?

Specialities working together are extremely important in the emergency setting. Trauma patients may require care by multiple specialists, such as orthopaedic, vascular or abdominal surgeons, in addition to medical specialists for other pre-existing or complicating conditions. Radiologists have to be conversant with the needs of all those specialties, and are important members of that team. Emergency radiologists have an excellent opportunity to work in multidisciplinary teams. In an emergency centre all specialists come to the patient, creating an environment that can foster better communication and collaboration.

Multidisciplinary teamwork is important for the entire specialty of Diagnostic Radiology. Every subspecialty in radiology needs to recognise that medicine is changing. We have to be patient-focused and work well in high level teams. Emergency radiologists are very well positioned to participate in and contribute to those kinds of healthcare teams, and can make an enormous difference in the outcomes for emergency and trauma patients.

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