The Society for Computer Applications in Radiology

Real-Time Radiology

THE ELECTRONIC transformation of radiology will involve many changes in the way radiologists work. One of the most profound changes in radiological practice will be delivery of radiology service in a real-time mode. In part, this change will be due to the fact that electronic images can be delivered to clinicians as soon as an examination is complete. If these images are not accompanied by the radiologist's interpretation, the clinician may make patient care decisions without input from the radiologist. Such a development could compromise patient care as well as distance the radiologist from clinical activities. To prevent these negative developments, radiologists will increasingly feel the need to provide interpretation and images to clinicians simultaneously. This impetus will not apply equally to all radiology examinations, but will be particularly strong in intensive care, emergency room, and other urgent examinations.

The need for real-time interpretation will increase demands on radiologists, but advancing technology will alleviate some of the burden. For example, PACS and teleradiology systems will allow radiologists to interpret images remotely, thus relieving them of the need to be on site when images are obtained. A single radiologist will be able to provide on-line interpretation of images

forwarded from multiple sites, after hours or on weekends.

The rapid availability of electronic images will increase the need for rapid production of radiology reports. Again, technology will alleviate some of this burden. Remote transcription services already are available in many areas, allowing electronic reports to be generated rapidly for review and approval by the interpreting radiologist. In addition, speech recognition systems continue to advance in parallel with the increasing speed and capacity of modern computers. Ultimately, radiologists should be able to produce authenticated radiology reports as rapidly as they can dictate them.

The electronic transformation of radiology will challenge radiology systems and procedures. Some of these changes may make radiologists uncomfortable, but I believe that our profession will rise to this challenge as it has to others in the past. Ultimately, these changes will increase our ability to carry out our basic purpose—to serve the patient.

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