Improving Ultrasound Efficiency with Scanner-Based Protocols

As ultrasound is an operator-dependent modality, there are clear advantages to implementing scanner-based protocols, since they improve consistency and efficiency, simplify the workflow for sonographers and ensure that all the images required are obtained. A study published in the American Journal of Roentgenology evaluated three examinations for which scanner-based protocols were implemented.

The researchers set out to investigate if implementing scanner-based protocols for three types of US exams decreased the scanning duration and number of images obtained to complete diagnostic quality US exams. They retrospectively evaluated 437 carotid Doppler US exams, 395 complete abdominal US exams with Doppler imaging and 413 bilateral lower extremity DVT Doppler exams performed between January 2009 through to December 2012 by 5 experienced sonographers. The mean scanning duration of the carotid Doppler US exams decreased by 12.4%, the complete abdominal US exams by 7.5% and the lower extremity DVT US exams by 4.5% - the latter, however, was not statistically significant. In addition there were significant decreases in the overall mean number of images obtained for each exam.

Speaking to *HealthManagement.org* lead author Rupan Sanyal, Associate Professor, Abdominal Imaging and Emergency Radiology Section at the University of Alabama, Birmingham, explained that the difference in times stacks up when considering the overall departmental workflow: "For a sonographer who averages 250 examinations per month, a 2-minute difference would yield 500 minutes saved or the equivalent of the scanning time for 20–30 additional examinations."

He also explained that the decrease in images obtained per study could be attributed to the fact that protocols guide sonographers through a study, so the likelihood of obtaining redundant images or images not required for that particular study decreases. He added, "The sonographer does not lose the ability to obtain additional images to document an abnormality because he or she can exit and re-enter the protocol at any point. In other words, the protocol-required images are the minimum—not the maximum—number of images that can be obtained for an individual study."

Reference

Sanyal R, Kraft B, Alexander LF et al. (2016) Scanner-based protocol-driven ultrasound: an effective method to improve efficiency in an ultrasound department. AJR Am J Roentgenol, 11: 1-5. [Epub ahead of print]

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