



TACKLING TRAUMA

RADIOLOGISTS ACT FAST, THINK
SMART TO STREAMLINE CARE IN
THE EMERGENCY DEPARTMENT.

BY ALYSSA MARTINO



All hospitals maintain one department unlike all the rest: the emergency department (ED). It's a place where the pressure to provide fast, effective care is rivaled only by the number of acute injuries and illnesses witnessed each day. In the ED, radiologists play a vital role in saving lives.

As Marty Khatib, J.D., RT(R), writes in *Radiology Today*, "Although many service lines support the ED, diagnostic imaging is arguably one of the most critical areas." Khatib adds that 44.2 percent of ED patients have imaging procedures ordered, as found in a National Center for Health Statistics study.¹

"Some individuals can train for this lifestyle and others have it built into their personality and thus gravitate toward it," explains Susan D. John, M.D., vice president of the American Society of Emergency Radiology (ASER) and professor of radiology at the University of Texas Medical School in Houston. Although this one-of-a-kind job is extreme in tension levels and pace, emergency radiologists face many of the same challenges as other subspecialists — from making decisions and triage to communication and patient safety.

Urgency, Efficiency, and Turf Issues

ED physicians — radiologists included — face at least one major variation in their patient care: "There's a sense of urgency," says John. In general medicine, "treatment is usually ongoing. In the ED, you're dealing with problems that have to be handled immediately." John, who practices both pediatric and emergency radiology, prefers the ED's climate because it's very interactive and close-knit and requires a team-like atmosphere, she explains.

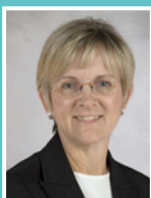
Stephen F. Hatem, M.D., 2010–2011 president of ASER and radiologist at the Cleveland Clinic in Ohio, made the decision to become an emergency radiologist after completing residency at a level 1 trauma center. "It's an eye-opening experience," he says. "You feel integral to patient management. You have to be prepared to deal with multiple organ systems and multiple imaging modalities."

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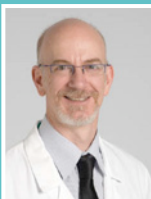
— *Stephen F. Hatem, M.D.*

Referring physicians in the ED also need diagnostic answers as soon as possible, which amplifies the role radiologists play in imaging decisions. "I think that all practices work differently," says Hatem. "But in mine, [radiologists have] taken a fairly active role in triaging the requests we receive."

John agrees: "We see many more patients in a day, so we need to be very efficient with processes. [ED radiologists] sometimes need to decide which patients take precedence based on how life-threatening a situation may be. We use trauma codes 1, 2, 3, [etc.] to help with this."



Susan D. John, M.D., chose emergency department radiology because she enjoys the physician interaction and intimate atmosphere.



As current president of the American Society of Emergency Radiology, Stephen F. Hatem, M.D., believes standardizing image transfer protocols will help improve emergency care.

Another issue radiologists face in the ED is “turf wars.” For example, in the March 2005 *JACR* article, “Turf Wars in Radiology: Emergency Department Ultrasound and Radiography,” co-authors David C. Levin, M.D., and Vijay M. Rao, M.D., argued against physician imaging, writing that “the training offered to emergency medicine residents is far less rigorous than that provided to radiology residents.”²

John believes that while some physicians have taken on imaging responsibilities in the ED, they still rely heavily on radiologists. “Some physicians and trauma surgeons have begun to use ultrasound as a bedside tool to obtain focused information they really need, such as whether there’s free fluid in the abdomen,” she says. John adds that it’s challenging for radiologists to provide this information rapidly because often they’re in the reading room, not the trauma room.

Bridges of Communication

Though imagers have stepped up in the ED, they must still communicate and work with referring physicians to avoid duplicate studies and ensure the smooth transfer of images — both notorious problems in emergency medicine. In the past several years, technology, including PACS, has sped up the overall processes of communicating findings. “In the old days, when we had hard copy film, you had one copy [of an image] that everybody needed to see,” says John. “It was messy and horrible. Once PACS came into existence, multiple people could view images from various places without running all over the hospital. This has been the biggest step toward improving efficiency.”

In other arenas, however, more advances are necessary to ensure efficient care. Currently, CD-ROMs with a patient’s radiologic images are transferred from other hospitals, which can pose further obstacles. “Unfortunately, there aren’t really standards for these CDs,” says Hatem. “You receive data in all different formats, which can be cumbersome and frustrating.”

“I definitely support standardization of this process — which, I believe, the ACR is working on.” ACR’s system for the

Transfer of Images and Data is helping fulfill this goal by tracking and managing the collection and transfer of images, scans, and more. (To learn more, visit <https://triad.acr.org>.)

John notes that although PACS has definitely improved image transfer, the technology still needs refining. “The ability to dictate is lagging,” she says. “If a department uses a transcription company, typists listen and type dictations — this is a moderately slow process. Now, with voice recognition, radiologists become the typists. However, this means we also have to correct any mistakes the system incorrectly hears.” (For more on voice recognition software, read “Loud and Clear” on page 17).

Communicating findings is also challenging during off hours. Hatem explains, “More frequent utilization of teleradiology has increased access to expert radiologic interpretations — both in academic and private practice.”

John’s department is also at the helm of implementing a new “critical value” system to communicate the most vital of findings — those needed to save lives immediately. “We’re looking for pieces of information that are very valuable in the treatment and welfare of a patient,” she says. “For those, we’ll have a special way of contacting the referring physician immediately.”

Protecting Patients

In this fast-paced, high-stress environment, one question is not overlooked: how do ED radiologists remain mindful of patient safety? John believes there are two ways to prioritize safety. “The first facet is on the technical side — setting up department protocols based on patient size so we don’t use the same dose when we image a 60-year-old to image a 2-year-old,” she says. This, she adds, includes making sure equipment is current and that the appropriate parts of the body are imaged.

John also notes that the Image Gently™ and Image Wisely™ campaigns are important efforts to oversee safer imaging. For more information and resources, visit www.imagegently.com and www.imagewisely.com.



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— Susan D. John, M.D.

The second piece of protecting ED patients is related to physician responsibility. “We need to make sure we’re only doing studies that are necessary based on the clinical problem,” John explains. “This is a difficult process because clinicians are under a lot of pressure, and many patients have potentially serious conditions that could be life threatening,” she continues. “The tendency is to want to do a lot of imaging quickly. It’s easy to over-image in those circumstances.”

Hatem also agrees that radiation dose and safety are important priorities; however, he doesn’t believe these issues require a higher level of awareness and commitment from ED radiologists alone. “I think [radiation safety] should be on the forefront of *all* radiologists’ minds,” he says. “We should all strive to minimize radiation dose and ensure appropriate utilization.” //

ENDNOTES

1. Khatib, M. “Improving Emergency Department and Imaging Throughput.” *Radiology Today* Nov. 16, 2009. Available at: <http://bit.ly/9iJ0t9>.
2. Levin, D.C. et al. “Turf Wars in Radiology: Emergency Department Ultrasound and Radiography.” *JACR* 2005;3:271–273.