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Radiological Society of North America

820 Jorie Blvd
Oak Brook, IL 60523
TEL 1-630-571-2670
FAX 1-630-571-7837
RSNA.org

NEWS

RSNA Press Release

For Emergency Radiology at a Trauma Center, Quality Assurance Does Make a Difference

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Media Contacts:

Maureen Morley
(630) 590-7754
mmorley@rsna.org

Marijo Millette Zerfoss
(630) 590-7727
mzerfoss@rsna.org

OAK BROOK, Ill.--Patients are the undisputed winners when a quality assurance (QA) program is established for radiologic imaging studies in the emergency department (ED), reports a Yale University School of Medicine study published in the July issue of the journal *Radiology*.

Patients today are increasingly in need of advanced imaging studies at all hours in the ED. Because it is impractical to make numerous subspecialists available at all times, an option is to have an expert re-interpret every non-conventional study on the following day. As co-author Howard P. Forman, M.D., M.B.A., points out, "The patients receive timely service and the assurance that specialists are looking closely at all of their studies."

Dr. Forman, associate professor of diagnostic radiology and management and a lecturer in the department of Economics at Yale, believes that with a QA program in place, "Patients get the best of both worlds, by having rapid clinical care delivery and the high level of attention that they expect from an academic medical center, at all hours of the day."

For the Yale study, the investigators took their cue from industries where high reliability is at a premium. Their solution was to incorporate added redundancy in personnel and safety measures. This demanded that all non-conventional imaging studies done in the ED be read first by the attending radiologist and later reviewed by a subspecialty radiologist.

The QA approach was tested in a consecutive series of 531 trauma patients - adults and children - who had abdominal/pelvic CT studies done at a trauma center. A board-certified or board-eligible radiologist acted as the primary reader during the ED work-up, and a subspecialty abdominal imaging radiologist provided the QA interpretation within the next 24 hours. Some of the relevant findings were as follows:

- The primary reading and QA review were discordant in 30 percent of cases. In a majority of these cases, however, the preliminary report was not altered. In several other instances, changes were edited into the final report, or new findings were added.

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- The reinterpretation resulted in a change in patient management in only 2.4 percent of total cases (8 percent of discordant cases). One patient was readmitted to the hospital.
- Six patients had further diagnostic imaging. Four reports upheld the QA reading, whereas two favored the primary interpretation.

Dr. Forman makes the important point that, although a 30 percent rate of discordant findings sounds high, "most of these are either differences of opinion, differences in thresholds for defining some anatomical or pathological variations, or generally less critical findings." While most discordant readings do not lead to altered patient management, the investigators concluded that a QA program serves an important purpose by identifying clinically significant findings - no matter how infrequent - that are missed by the primary reader. In addition, it provides invaluable education to medical staff and attending radiologists and, most importantly, it benefits the people treated in the ED. Dr. Forman concludes, "A quality assurance program can reduce errors, improve the delivery of health services and provide better outcomes to patients."

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"Evaluation of an Emergency Radiology Quality Assurance Program at a Level One Trauma Center." Collaborating with Dr. Forman on this paper were Luke S. Yoon, B.S., Andrew H. Haims, M.D., James A. Brink, M.D., and Reuven Rabinovici, M.D.

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