

LETTERS TO THE EDITOR

6. Hussey PS, Timbie JW, Burgette LF, Wenger NS, Nyweide DJ, Kahn KL. Appropriateness of advanced diagnostic imaging ordering before and after implementation of clinical decision support systems. *JAMA* 2015; 313(21):2181–2182.
7. Griffey RT, Jeffe DB, Bailey T. Emergency physicians' attitudes and preferences regarding computed tomography, radiation exposure, and imaging decision support. *Acad Emerg Med* 2014;21(7):768–777.

Response

From

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Although the value of medical imaging is unquestioned, many have raised concerns regarding inappropriate utilization, which increases healthcare costs, often requires ionizing radiation, and may uncover incidental findings that require further evaluation. One of the areas of greatest concern is the use of CT in the ED.

Radiologists and equipment manufacturers have both worked hard to minimize the radiation dose needed for diagnostic CT imaging. The campaigns of Image Gently and Image Wisely have been endorsed by major radiologic societies and are common practice across the country. Equipment manufacturers should also be credited with producing CT scanners capable of obtaining diagnostic images at dramatically reduced radiation doses.

Emergency room physicians are in a difficult position as they care for patients who are often acutely ill. Immediately available medical imaging, such as CT, provides a high degree of value in this setting. Furthermore, patients often expect medical imaging, and may even be sent to the ED by their primary care physicians specifically to get imaging examinations (1,2).

In medical imaging, physicians must weigh the risk of the examination with the potential benefit of the diagnostic

information. To help referring physicians do a better job, clinical decision support systems are being developed (3). However, this is also a challenging area as recommendations for the use of medical imaging must be updated in a timely fashion to reflect changes in medical practice. Casey Chong's comment correctly identifies an area in which there is an opportunity for improvement.

Disclosures of Conflicts of Interest: disclosed no relevant relationships.

References

1. Dunnick NR, Applegate, KE, Arenson RL. The inappropriate use of imaging studies: a report of the 2004 Intersociety Conference. *J Am Coll Radiol* 2005;2(5):401–406.
2. Kocher KE, Meurer WJ, Fazel R, Scott PA, Krumholz HM, Nallamothu BK. National trends in use of computed tomography in the emergency department. *Ann Emerg Med* 2011;58(5):452–462.
3. Siström CL, Dang PA, Weilburg JB, et al. Effect of computerized order entry with integrated decision support on the growth of outpatient procedure volumes: seven-year time series analysis. *Radiology* 2009;251(1):147–155.

Radiology Transitions in the Lion City

From

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Editor:

We thank Dr Lee for his insights and observations on our little Lion City, which appeared in the September 2015 issue of *Radiology*; sometimes it takes an outside perspective to highlight the blessings and the challenges facing us,

which those inside the system may not see or verbalize as cogently (1). Like other nations, Singapore faces health care issues, including an ageing population, rising healthcare costs, and increasing expectations of radiologists.

Radiology practice in Singapore has benefited from our being at the crossroads of world cultures; as we transition from a British-type of training to American-style Accreditation Council for Graduate Medical Education residency programs and examinations, we hope to adopt the best practices from all systems. The strength of our radiology practice is its clinical orientation: Radiologists (especially in academic and restructured public hospitals) consult closely with referring clinicians. Every effort is made to prevent unnecessary radiation, and our entire medical education journey emphasizes the appropriateness of any imaging study requested and/or ordered. We have in the past struggled with a low ratio of radiologists per million population, but as our specialty progresses it is hoped that there will be enough radiologists to provide subspecialist expertise, quality improvement, education, and research (2).

Our role as clinical radiologists, however, is being challenged by an increasing expectation of an on-demand imaging service provider to answer questions quickly (3) and the inexorable rise of defensive medicine. To maintain high professional standards and training, the College of Radiologists Singapore and the Singapore Radiological Society are working hard to continuously improve the formal teaching curriculum and informal subspecialty interest group meetings. In learning from the best, perhaps partnerships such as multidisciplinary team conferences (4) and the American College of Radiologists' Imaging 3.0 value initiative (5) might provide a way forward for radiologists in Singapore to be consulting physicians (6) who provide appropriate, timely, high-value, cost-contained imaging services that would benefit the health of our nation.

In his article, Dr Lee also mentioned many imaging features in our patients

that are clinically interesting, and we look forward to exchanging these ideas at the appropriate fora. In the meantime, we wish him the best in finding good salads for lunch!

Disclosures of Conflicts of Interest: C.C.T.L. disclosed no relevant relationships. U.P. disclosed no relevant relationships.

References

1. Lee JKT. Radiology in the Lion City. *Radiology* 2015;276(3):632–636.
2. Dhanoa D, Dhesi TS, Burton KR, Nicolaou S, Liang T. The evolving role of the radiologist: the Vancouver workload utilization evaluation study. *J Am Coll Radiol* 2013;10(10):764–769.
3. Jha S. From imaging gatekeeper to service provider: a transatlantic journey. *N Engl J Med* 2013;369(1):5–7.
4. Donaldson SS. The power of partnerships: a message for all radiologists. *Radiology* 2014;271(2):315–319.
5. Imaging 3.0™ FAQ. American College of Radiology. <http://www.acr.org/FAQs/imaging-3-faq>. Accessed September 30, 2015.
6. Levin DC. The 2014 RSNA Annual Oration in Diagnostic Radiology: transitioning from volume-based to value-based practice—a meaningful goal for all radiologists or a meaningless platitude? *Radiology* 2015;275(2):314–320.

Errata

Originally published in:

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Image Noise Reduction Algorithm for Digital Subtraction Angiography: Clinical Results

Michael Söderman, Staffan Holmin, Tommy Andersson, Charlotta Palmgren, Draženko Babić, Bart Hoornaert

Erratum in:

Radiology 2016;278(3):962
DOI:10.1148/radiol.2016164004

Page 556, Table 3, the unit of measure for dose-area product

(DAP) per image should be **Gy • cm²** in the heading and footnote.

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Effect of Change in Portal Venous Blood Flow Rates on the Performance of a 2.45-GHz Microwave Ablation Device

Gerald D. Dodd III, Sarah M. Kridler, Anthony C. Lanctot, Deborah H. Glueck

Erratum in:

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Page 728, first paragraph, the third sentence should read as follows: In the first two categories of experiments, **multiple different radio-frequency and microwave ablation devices have been tested**. This has been corrected online.