AN INTERVIEW WITH...

Kenneth R. Thomson, MD

A discussion on key differences between radiology in Australia and the United States, as well as new developments in training and reducing radiation exposure.

Are there major differences between Australia and the United States in terms of government and/or insurance reimbursement for interventional and diagnostic procedures?

The major difference between Australia and the United States is that Australia has a system of universal health care (Medicare), which provides in-hospital and ambulatory treatment that is paid for by the commonwealth government. Patient rebates are based on a common fee schedule, which provides for 90% of ambulatory treatment and 75% of in-hospital treatment. Most Australians also have private health insurance but are not compelled to use it in a public hospital. Private insurance generally does not cover radiological procedures performed on those who are not in-hospital patients, and most private radiologists charge well above the Commonwealth Schedule of Benefits. There are similar difficulties in both countries in obtaining reimbursement for new procedures, but in general, an Australian radiologist would expect to receive payment of more than 95% of billings, provided the service was listed on the Commonwealth Medicare Benefits Schedule and the radiologist charged the schedule fee. Only items recommended by the Medicare Services Advisory Committee are included in the schedule and require evidence of safety, effectiveness, and cost effectiveness.

Has the Medicare Services Advisory Committee's decision to reimburse uterine artery embolization increased the volume of patients who present for treatment? Have there been any difficulties associated with this decision?

In response to complaints by gynecologists, the nonspecific embolization item was excluded from use for uterine artery embolization. The interventional radiologists, with a lot of help from the international radiology community, were successful in having the item reestablished. This process took 2 years, during which time our referrals for uterine artery embolization did not change significantly, although our revenue did fall. I think we have seen a slight increase in referrals from gynecologists, which probably reflects their recognition of the evidence we provided and a greater public awareness as a result of the publicity associated with the removal of the item from the schedule. We were fortunate at the Alfred Hospital because we had an excellent working relationship with Melbourne gynecologists.

Which areas related to uterine artery embolization do you believe require further study?

The issue of ovarian dysfunction related to embolization needs further study. My personal opinion is that this risk is overstated, but we quote a 1% to 2% risk, even though we have not experienced this level of dysfunction.

The second major issue is pain management. We have been very impressed so far with inferior hypogastric nerve blocks, but we still have a heavy reliance on intravenous opiates with patient-controlled analgesia.

Many women with fibroids want to become pregnant after embolization, but the question of what risks there are of uterine rupture or abnormal placental attachment arises. We have had several successful deliveries after embolization, but I know that our obstetricians are still very concerned about the integrity of the wall of the uterus during late pregnancy in these women. To provide further information on this topic, a large international registry is required.

In which ways do you believe the proposed American College of Radiology's dual certificate in interventional and diagnostic radiology could improve the field in regard to training of physicians or the quality of care provided to patients?

The dual certificate will ensure that interventional radiologists are provided with sufficient training to provide patient care before, during, and after the interventional procedure. In the past, with the support of physicians and surgeons, interventional radiologists were able to operate virtually as a procedural technician and rely on their colleagues to provide patient care and follow-up. This paradigm became untenable once vascular surgeons and cardiologists became involved in interventional radiology.

My support of the dual certificate does not mean that I support interventional radiologists being completely divorced from the diagnostic radiology pathway. Involvement of interventional radiologists in the diagnostic imaging pathways significantly improves referral of patients to the interventional radiology service. Likewise, understanding the needs of the interventionist enhances the reporting of complex investigations, such as computed tomographic (CT) angiography.

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From the patient's point of view, there are advantages of an interventionist who has clinical and radiological skills in terms of continuity of treatment and planning of aftercare. The entire process, including presentation, consent, treatment, and follow-up, becomes completely seamless. The referring primary care physician does not receive conflicting accounts of what happened during and after treatment.

Most hospital credentialing committees in Australia struggle with the concept of a radiologist who cares for patients, so this type of certificate would simplify the credentialing process.

What do you find rewarding about teaching at Alfred Radiology? Are there any particular challenges?

We have a system in which a Director of Training is supported by several subdirectors and mentors. My deputy is the Director of Training, but I am personally involved in training for interventional radiology procedures and in a less formal way with our trainees in the general reporting areas. I find it extremely rewarding to see young people developing their skills and, in most cases, becoming far more knowledgeable than I am. I think the biggest challenge facing radiology is the need for subspecialization in the larger centers while at the same time providing a more widely skilled radiologist for the small centers. Like most countries, Australia does not have enough radiologists, although we are better off than some of our neighbors.

In which ways have you used robotic digital radiography in your practice?

We have four general x-ray rooms, which are robotic digital rooms. These rooms are very impressive, especially when switching from supine on-table imaging to standing chest imaging. There is no doubt that the throughput potential of these rooms is far higher than the old digital cassette radiography systems. However, this comes at a cost in terms of the equipment, and I have yet to see a reduction in the number of radiographers per room.

We have found it more cost effective to update existing general rooms and our mobile x-ray units with digital radiography than to continue with further robotic rooms.

I believe robotic positioning systems will find a larger place in diagnostic and interventional procedures that require percutaneous placement of a needle or device along a complex path.

What are the boundaries for justifying CT scans versus protecting patients and staff from unnecessary radiation?

It has become fashionable to x-ray first and ask questions afterward, particularly in trauma and emergency situations. We have seen an exponential growth in the number of CT scans that are performed in case an abnormality is found. Sadly, it appears that clinical examination as a skill is rapidly disappearing. The public, who are exposed to a number of popular television shows in which radiology is used very widely, almost expect that radiology is part of the standard of care.

I believe that imaging in a clinical pathway without a clinical examination of the patient is wasteful of resources and possibly harmful to the patient. As a result of the French study by Hejblum et al,[1] we have been successful in reducing the number of "daily routine" x-rays in our intensive care unit. In the trauma setting, even in a patient who was totally protected by air bags in a low-speed motor vehicle accident, we are less successful in reducing the amount of imaging performed, and the usual whole-body CT scan is likely.

In an adult population like the Alfred Hospital clientele, in which the average patient is older than 50 years, it is difficult to demonstrate an excess of cancer risk resulting from our radiology. In the pediatric setting, this risk is real, but fortunately, our pediatric colleagues are far more diligent.

In cases when the radiation exceeds 2 mSv and the examination was truly unnecessary or was performed on the wrong patient, we are obliged to immediately report the incident to the State Department of Health. This obligation does not apply if the radiation was medically necessary.

What is required is a study of patient outcomes to determine whether the radiology procedure was necessary in terms of confirming the presence of a suspected abnormality on clinical examination or if it was just part of an exclusion process. Performing such a study in an emergency department where there is a 4-hour period during which the intervention must be completed would be difficult but not impossible.

It generally falls to the radiographer or junior radiologist to act as gatekeepers for radiology, and it is important that they are fully supported by the Director of Radiology. As we all know, the clinical information changes as each rejection is applied. If adequate clinical information was provided at the onset, not only would rejection be less likely, but also, a more informed diagnosis might be made. ■

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1. Hejblum G, Chalumeau-Lemoine L, Ioos V, et al. Comparison of routine and on-demand prescription of chest radiographs in mechanically ventilated adults: a multicentre, cluster-randomised, two-period crossover study. Lancet. 2009;374:1687-1693.