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Benjamin P Howden,* Elizabeth A Grabsch,† Helen King,‡ Maryza Graham,§ Paul D R Johnson,¶ Tony M Korman** M Lindsay Grayson,†† Barrie C Mayall‡‡

* Infectious Diseases Physician, § Infectious Diseases Registrar, ¶ Deputy Director, †† Director, Infectious Diseases Department, Austin Health, Studley Road, Heidelberg, VIC 3084; † Infection Control Scientist, ‡ Scientist, ‡‡ Medical Microbiologist, Microbiology Department, Austin Health, Melbourne, VIC; ** Director, Infectious Diseases Department, Southern Health, Melbourne, VIC.
benjamin.howden@austin.org.au

To the Editor: Although community-acquired methicillin-resistant *Staphylococcus aureus* (CA-MRSA) has been reported, it is not recognised as important in Victoria.[1] Also, health-care acquisition of "typical CA-MRSA" strains has been reported, but is uncommon.[2] Because of an apparent increase in CA-MRSA at Austin Health (a tertiary referral centre in Melbourne encompassing The Austin Hospital, The Heidelberg Repatriation Hospital and Royal Talbot Rehabilitation Centre), we undertook a retrospective survey of cases to determine the frequency of isolation, and clinical and laboratory features of non-multiresistant MRSA (nmMRSA),[1] as a marker for CA-MRSA.

Patients with nmMRSA isolated from blood culture between January 2000 and December 2003 or from any specimen between March 2002 and August 2003 were included. Medical records were reviewed, and the mode of acquisition was defined as described previously.[3] All isolates underwent polymerase chain reaction testing for genes encoding Panton–Valentine leukocidin, and pulsed field gel electrophoresis (PFGE).

The frequency of isolation of nmMRSA was also reviewed for the period 1999–2004 at two major hospitals in Victoria — Austin Health and Southern Health.

We identified 53 patients with nmMRSA infection or colonisation (Box). Thirteen cases (25%) were community acquired, including one fatal case of endocarditis, nine cases of soft tissue infection, two of bacteraemia, and one of bone/joint infection. Forty cases were health-care-acquired, including 17 cases of skin or soft tissue infection and seven of bacteraemia. Ten hospital patients had nmMRSA colonisation without infection. Patients with health-care-acquired nmMRSA were commonly in the renal or spinal unit or from nursing homes.

PFGE revealed that the 53 nmMRSA isolates belonged to 18 groups, including six that have been previously described (WA-1 and 2, Queensland, SWP, UK EMRSA-15 and 16) and 12 novel groups (A-L). Health-care-acquired infection or colonisation was documented for all PFGE groups, including "typical CA-MRSA" strains (WA-1, WA-2, Queensland, and SWP). Twelve isolates (23%), including four health-care-acquired isolates, were positive for Panton–Valentine leukocidin (PVL). This is of particular concern given the association of PVL-positive *S. aureus* strains with severe skin disease, necrotising pneumonia, and high mortality in some studies, and the increased virulence of CA-MRSA compared with typical health-care-acquired multiresistant MRSA.[4,5] Ten patients with CA-MRSA (77%) received ineffective antimicrobial therapy in the first 48 hours of treatment, including patients with bacteraemia.

From 1999 to 2004, there was a significant decrease in the total number of MRSA cases per hospital discharge at Austin Health and Southern Health, but the number of nmMRSA cases increased, from 0.6 to 1.1 per 1000 discharges at Austin Health (1999 to 2004; $P = 0.004$) and from 0.08 to 0.35 per 1000 discharges at Southern Health (2001 to 2004; $P < 0.001$).

Multiple genotypes of CA-MRSA are increasingly causing community-acquired and, importantly, health-care-acquired infections in Victoria. Clinicians need to be alert to this problem, and further research to understand the epidemiology and risk factors is urgently required to help guide changes in therapy and infection control policy.

Characteristics of patients and isolates of non-multiresistant methicillin-resistant *Staphylococcus aureus* at a hospital in Victoria

Characteristic	Total	Community-acquired	Health-care-acquired
Number of cases*	53	13	40
Age (years): median (range)		31 (17–58)	69 (18–94)
Sex (M/F)		8/5	16/24
Infection type*			
Skin/soft tissue	26	9	17
Bacteraemia	9	2†	7
Endocarditis	1	1‡	0
Bone/joint	4	1	3
Pneumonia	1	0	1
Urine	1	0	1
Pelvic abscess	1	0	1
Colonisation	10	0	10
PFGE group			
WA-1	4	2	2
WA-2	3	1	2
Queensland	6§	5§	1§
SWP	5§	3§	2§
UK EMRSA-15	10	0	10
UK EMRSA-16	3	2	1
A-L	22¶	0	22¶

PFGE = pulsed field gel electrophoresis.
* Survey included blood culture isolates for the period 2000–2003, and isolates from any specimen for the period March 2002–August 2003.
† One case was associated with pneumonia, the other with epidural abscess. ‡ Fatal case.
§ All isolates were Panton–Valentine leukocidin (PVL)-positive. ¶ One isolate was PVL-positive. ◆

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2 van der Mee-Marquet N, Domelier A, Girard N, et al. Epidemiology and typing of *Staphylococcus aureus* strains isolated from bloodstream infections. *J Clin Microbiol* 2004; 42: 5650-5657.
3 Fridkin SK, Hageman JC, Morrison M, et al. Methicillin-resistant *Staphylococcus aureus* disease in three communities. *N Engl J Med* 2005; 352: 1436-1444.
4 Gillet Y, Issartel B, Vanhems P, et al. Association between *Staphylococcus aureus* strains carrying gene for Panton-Valentine leukocidin and highly lethal necrotising pneumonia in young immunocompetent patients. *Lancet* 2002; 359: 753-759.
5 Zetola N, Francis JS, Nuermberger EL, Bishai WR. Community-acquired methicillin-resistant *Staphylococcus aureus*: an emerging threat. *Lancet Infect Dis* 2005; 5: 275-286. ❑

No barriers to chlamydia testing in sexually active young women

Christopher K Fairley,* Jane Hocking,† Jane Gunn,‡ Marcus Y Chen§

* Professor, † Postdoctoral Research Fellow, School of Population Health, ‡ Associate Professor and Deputy Head, Department of General Practice, § Registrar, Melbourne Sexual Health Centre, University of Melbourne, 580 Swanston Street, Carlton, VIC 3053.
cfairley@unimelb.edu.au

To the Editor: Each year, Australian general practitioners test only about 7% of women aged 16–24 years for chlamydia (according to Medicare records, 89 132 tests were performed on women in this age group

in 2004). This compares with 30% of women aged 20–24 years in Sweden[1] or Denmark.[2] Why are Australian GPs not testing young women for chlamydia?

Chlamydia screening in sexually active women is cost-effective and significantly reduces complications such as infertility.[3] The Australian Government's commitment to chlamydia control is evidenced by the $12.5 million recently provided for increased awareness, improved surveillance and a pilot testing program for chlamydia.

In 2004, 81% of 15–19-year-old and 89% of 20–24-year-old women attended a GP at least once in Australia (unpublished data from Health Insurance Commission [HIC]), yet chlamydia testing was ordered for only a small fraction of these women.

Possible reasons for the low testing rate include a lack of knowledge about the benefits of testing young women, inadequate support, difficulties in raising chlamydia testing during consultations not related to sexual health, or concern about violating HIC rules on screening.[4] However, the Medicare Benefits Schedule does permit testing for chlamydia among young sexually active women. Benefits are payable for:

> health screening services ... by the patient's own medical practitioner ... to ensure the patient receives any medical advice or treatment necessary to maintain his/her state of health ... [B]enefits would be payable for the attendance and such tests which would be considered reasonably necessary according to the circumstances of the patient, such as age, physical condition, past personal and family history.[5]

If the HIC is concerned that "inappropriate practice" may have occurred, there is a clearly defined process for determining this.[6] Part of the definition of "inappropriate practice" is "conduct in connection with rendering or initiating services that would be unacceptable to the general body of members of that profession". A GP's professional peers would be members of the Royal Australian College of General Practitioners. The College will soon release the latest edition of its *Guidelines for preventive activities in general practice* ("The Red Book"),[7] which includes activities only if they are relevant to general practice and have a demonstrated benefit. The book now recommends that all sexually active women less than 25 years of age should be tested annually for chlamydia.

Increasing chlamydia testing in young Australian women from the current low rate of 7% would reduce complications and save money in the long run.[3]

1 Götz H, Lindbäck J, Ripa T, et al. Is the increase in notifications of *Chlamydia trachomatis* infections in Sweden the result of changes in prevalence, sampling frequency or diagnostic methods? *Scand J Infect Dis* 2002; 34: 28-34.
2 Statens Serum Institut. Chlamydia 2003. EPI-News, No. 45, 2004. Available at: http://www.ssi.dk/sw19521.asp (accessed Oct 2005).
3 Hocking J, Fairley CK. Need for screening for genital *Chlamydia trachomatis* infection in Australia. *Aust N Z J Public Health* 2003; 27: 80-81.
4 Donovan B, Knight V, McNulty A, et al. Gonorrhoea screening in general practice: perceived barriers and strategies to improve screening rates. *Med J Aust* 2001; 175: 412-414.
5 Medicare Benefits Schedule book. Canberra: Australian Government Department of Health and Ageing, 2004.
6 Medicare Australia. Health care providers. Professional Services Review Scheme. Inappropriate practice. Available at: http://www.medicareaustralia.gov.au/providers/program_review_integrity/psr.htm#inappropriate_practice (accessed Oct 2005).
7 Harris M, Bailey L, Bridges-Webb C, et al, editors. Guidelines for preventive activities in general practice ("The Red Book"). 6th ed. Melbourne: Royal Australian College of General Practitioners, 2005. ❑

Bisphosphonate-induced osteonecrosis of the jaw requires early detection and intervention

Simon D J Gibbs,* John O'Grady,† John F Seymour,‡ H Miles Prince§

* Haematology Registrar, † Dental Oncologist, ‡ Haematoncologist, § Head, Department of Haematology and Medical Oncology, Peter MacCallum Cancer Centre, St Andrew's Place, East Melbourne, VIC 8006.
simongibbs02@yahoo.com.au

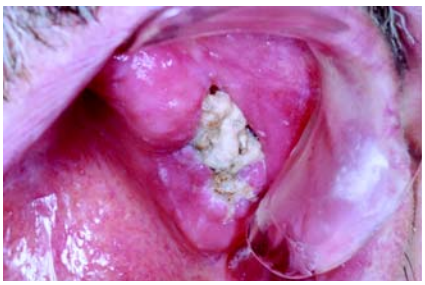
To the Editor: We read with interest the article by Carter and colleagues reporting five cases of jaw osteonecrosis associated with bisphosphonate use.[1] To emphasise the association, we report a further eight cases seen at our institution between February 2004 and June 2005.

After Marx's report of the condition in 2003,[2] we instituted a policy of active screening for jaw osteonecrosis in patients taking bisphosphonates. Patients were asked about suggestive symptoms, such as tooth pain or dental infection, and underwent oral examination by the treating haematologist or oncologist. Suspected cases were referred to our dental oncology unit. Bisphosphonate therapy was discontinued in established cases to prevent further bisphosphonate accumulation and possible worsening of the complication.

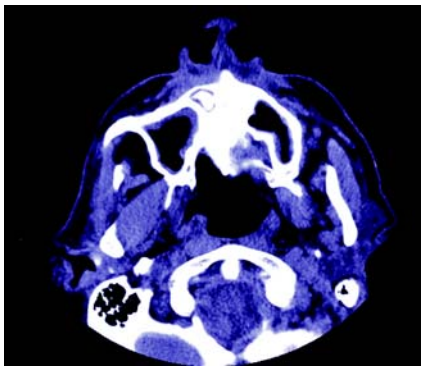
Of the eight patients detected with jaw osteonecrosis, five had multiple myeloma, two breast cancer, and one prostate cancer. All were receiving monthly intravenous bisphosphonate therapy: zoledronic acid (4 mg) in seven patients, and pamidronate (90 mg) in the other. Median duration of bisphosphonate therapy before onset of symptoms was 22 months (range, 6–66 months). Five patients were male, and three female. Seven had undergone tooth extraction before presentation (Box), and the five with multiple myeloma had received high-dose corticosteroids. Management was conservative in all eight. No improvement was seen in any patient by 3 months, but, with continued withholding of bisphosphonates, some signs of healing were seen in all by 6 months.

Four of the patients had a change in therapy from pamidronate to zoledronic acid (because of the latter's shorter infusion time) in the 2–18 months before onset of symptoms. None had experienced osteonecrosis while taking pamidronate. It is postulated

Osteononecrosis of the jaw in a patient with multiple myeloma taking zoledronic acid



Necrotic maxillary bone and sequestrum formation which developed after tooth extraction.



Computed tomography scan showing failure of the bone to heal at the extraction site.

that zoledronic acid is more often associated with osteonecrosis than pamidronate.[3]

Appropriate management for patients who need to resume bisphosphonate therapy after osteonecrosis remains to be determined. Clodronate is an orally administered first-generation bisphosphonate which has been used widely in Europe with no reports of associated osteonecrosis.[4] Unlike pamidronate and zoledronic acid, it does not contain a nitrogen ring. On this basis, we recently began clodronate therapy in a patient with complete jaw healing after osteonecrosis.

Avoiding tooth extractions while taking bisphosphonates should minimise the incidence of osteonecrosis. Our active screening policy allowed earlier detection of osteonecrosis and prompt intervention, including cessation of bisphosphonates and avoidance of debridement of necrotic bone (which often exacerbates the condition), thereby limiting the extent of osteonecrosis. It is uncommon for physicians to ask about dental problems and for dentists to ask about bisphosphonate use. This new complication highlights the need for this to change.

1 Carter G, Goss AN, Doecke C. Bisphosphonates and avascular necrosis of the jaw: a possible association. *Med J Aust* 2005; 182: 413-415.
2 Marx RE. Pamidronate (Aredia) and zoledronate (Zometa) induced avascular necrosis of the jaws: a growing epidemic. *J Oral Maxillofac Surg* 2003; 61: 1115-1117.
3 Durie BG, Katz M, Crowley J. Osteonecrosis of the jaw and bisphosphonates [letter]. *N Engl J Med* 2005; 353: 99-102.
4 McCloskey EV, Dunn JA, Kanis JA, et al. Long-term follow-up of a prospective, double-blind, placebo-controlled randomized trial of clodronate in multiple myeloma. *Br J Haematol* 2001; 113: 1035-1043. ❑

Spinal cord injury register for football: already tackled?

Jesia G Berry,* James E Harrison,† Raymond A Cripps,‡ Ruth Marshall§

* Research Officer, † Director and Associate Professor, ‡ Research Associate, National Injury Surveillance Unit, Flinders University, GPO Box 2100, Adelaide, SA; § Director, South Australian Spinal Cord Injury Service, Royal Adelaide Hospital, SA.

Jesia.Berry@flinders.edu.au

To the Editor: The authors of a recent article on football spinal injuries[1] restate the case made in 1987 "for an independent registry of football-related ASCIs [acute spinal cord injuries]"[2] and conclude that "the games must be made safer than they presently are, and a national registry is the first step in this direction".[1]

The Australian Spinal Cord Injury Register (ASCIR) was established in 1995 by the National Injury Surveillance Unit of the Australian Institute of Health and Welfare and the directors of all six Australian spinal units. The ASCIR collects data from these units on persisting ASCI from all causes. Published reports are available at <http://www.nisu.flinders.edu.au/publications.php#hdr16>.

We think that this existing register provides the basis for the function advocated by Carmody et al.[1] The ASCIR can be used to identify particular types of ASCI cases, such as those due to football, and can provide basic demographic and clinical information. Indeed, The ASCIR was used to identify relevant cases when Carmody and colleagues[1] asked spinal units for this information.

Ideally, data for a sports injury register are obtained from injured players, witnesses and clinicians to enable detailed analysis of mechanisms and circumstances. A good example is a register of catastrophic head and neck injuries in American football which has, since 1977, collected data from each injured player's coach, physician and athletic director, prompting rule changes and equipment improvements.[3] As a register of ASCI generally, the ASCIR does not normally obtain such detailed information about cases occurring during football. There is no obvious reason why football-related cases ascertained by the ASCIR should not be flagged for supplementary information collection, perhaps by or in collaboration with interested researchers such as Carmody and colleagues.[1]

In addition to case data, participation numbers over time are necessary for trend analysis. The Australian Rugby Union has published comprehensive annual participation data since 1996, but the Australian Rugby League has not. The American football register is supplied with participation figures by national school and collegiate associations,[3] and similar information from Australian sports-governing bodies would be beneficial.

The brief statement of methods and the omission of year-specific case numbers by Carmody et al[1] left us unsure how trends had been modelled (eg, Were trends based on annual rates? Were annual exposure data interpolated from their Box 1 figures?) We note that their figure of 68 179 registered rugby union players in 1996 is more than 20 000 lower than the figure published by the Australian Rugby Union.[4]

1 Carmody DJ, Taylor TKF, Parker DA, et al. Spinal cord injuries in Australian footballers 1997–2002. *Med J Aust* 2005; 182: 561-564.
2 Taylor TKF, Coolican MRJ. Spinal cord injuries in Australian footballers, 1960–1985. *Med J Aust* 1987; 147: 112-118.
3 National Center for Catastrophic Sport Injury Research, University of North Carolina. Annual survey of catastrophic football injuries; 1977–2004. Available at: http://www.unc.edu/depts/nccsi/CataFootballInjuries.htm (accessed Aug 2005).
4 Australian Rugby Union. ARU annual report — participation figures 1996–1997. Sydney: Australian Rugby Union, 1997. ❑

Thomas K F Taylor,* David J Carmody,† David A Parker,‡ Myles R J Coolican,‡ Robert G Cumming§

* Emeritus Professor, † Registrar, ‡ Surgeon, Department of Orthopaedics and Traumatic Surgery, Royal North Shore Hospital, Pacific Highway, St Leonards, NSW 2065; § Professor, Centre for Education and Research on Ageing, Concord Hospital, Concord, NSW.

tktaylor@med.usyd.edu.au

In reply: We welcome the opportunity to comment briefly on what we consider a registry for spinal injuries in football should actually be. The raw data collected by the Australian Spinal Cord Injury Register is valuable for governments and other statutory bodies — for example, to plan for the enormous costs of acute spinal cord injuries (ASCIs), irrespective of their causation. However, a proper registry for spinal injuries from football (all codes) is a far cry from this. In particular, hospital records are notoriously inaccurate as to the way in which injuries sustained are documented, and to rely on them ensures misleading, if not spurious, data. We established long ago that interviewing players was the only accurate way to identify the mechanisms of injury, which are the keys to possible preventive measures.[1]

It is entirely relevant that ASCIs are at one end of a spectrum of vertebral column injuries (eg, fractures, dislocations) sustained in all football codes. Between 1986 and 2002, 65 footballers were admitted to the Royal North Shore Hospital with vertebral column injuries but no spinal cord damage. These injuries were sustained by the same mechanisms as their more serious counterparts and differed from them in degree rather than absolute kind. We contend there should be mandatory reporting of all spinal injuries to an independent registry and that football club registration should depend upon compliance with this requirement.

1 Taylor TKF, Coolican MRJ. Spinal cord injuries in Australian footballers, 1960–1985. *Med J Aust* 1987; 147: 112-118. ❑

Cancellation of operations on the day of intended surgery at a major Australian referral hospital

Roxanne L Wu
General Surgeon, White Rock Surgery, 2/194 Progress Rd, White Rock, QLD 4868.
rockdocs@bigpond.net.au

TO THE EDITOR: May I suggest some explanations for the findings of Schofield and colleagues on the rate and reasons for surgery cancellations on the intended day of surgery.[1]

- Patients placed on a "never-never" waiting list for relatively minor surgery, such as many ear, nose and throat operations, treat the procedure with the contempt that has been shown to them. If the problem really needed the operation, most will have turned to the private sector, and, if it did not really need an operation, it has got better by itself.
- Surgeons who have many "no-shows" habitually overbook to fill their lists. In this day and age, surgeons who "underutilise" their lists are punished by losing them.
- No surgeon who has purposely overbooked their list will put a correct time estimate on the operation. We know how to add up.
- Surgeons whose lists are often shortened because of lack of beds begin to double book themselves, so that they are not left with an empty day. If the list is full, the surgeon may then be unavailable because of the other commitment.
- Surgeons who know they have a 30% chance of not getting an elective postoperative intensive-care bed for one patient book a "stand-by" patient, which becomes a cancellation if the intensive-care bed eventuates.

I suggest that, before millions of dollars are spent on management consultants, the following simple procedures be considered:

- Always give the patient a date for the operation, even if it is next year. It keeps everyone a lot more honest, and patients might even ring the hospital to change the date (if they can get through the unnecessarily tedious process of phoning the booking clerks.)
- Administrators must understand that a hospital's load fluctuates enormously and, if elective surgery is deemed the least important activity, it will never be done. To have enough beds for elective surgery means having empty beds sometimes.
- If patients are given a date, the hospital can predict the number of beds required for elective surgery patients, and these should be treated as full beds in advance. Intensive-care beds can also be booked, as intensive-care stays after elective surgery are predictable. If the hospital has excessive emergency admissions, it should be possible to open reserve beds at short notice or to reschedule surgery by negotiating with patients.

These simple measures might cost more to the current account, but not the millions required to engineer some high-technology process driven by management consultants.

1 Schofield WN, Rubin GL, Piza M, et al. Cancellation of operations on the day of intended surgery at a major Australian referral hospital. *Med J Aust* 2005; 182: 612-615. ❑

John P Royle
Vascular Surgeon (retired), Past President, Royal Australasian College of Surgeons, and Associate Professor of Surgery, University of Melbourne, Austin Hospital, Heidelberg, VIC 3084. johnroyle@onthe.net.au

COMMENT: The recent articles in the Journal by Schofield and colleagues[1] and Cregan[2] on cancellations of surgery on the scheduled day are important, as they focus attention on the management of elective surgery in the public sector.

The number of on-the-day cancellations reported by Schofield et al could be reduced by continuing to compile these statistics. The consequent focus on the various problems at their hospital would reduce cancellations, although it might take several years for an effect. The statistics will vary between hospitals, depending on the amount of complex tertiary surgery undertaken and the demographic characteristics of the catchment population. Some of the problems are common to most hospitals, and more dialogue between them would be helpful.

Most surgeons working in the public sector experience repeated frustrations with the management of the elective surgery waiting list. The points made by Wu are valid but of course do not cover everything in a multifactorial problem. However, her suggestions for improvement are very worthy of consideration.

Giving a patient a date for an operation is sensible: both patient and staff know where they stand. If a patient had to be given a date more than 12 months in advance, then the hospital would be failing in its obligation to provide an adequate service to the community. A major reorganisation might be required. A patient who has been given a definite date can be brought into a pre-admission and pre-anaesthetic clinic (as suggested by Cregan) 3–4 weeks before the date. This would eliminate many of the reasons for cancellation listed by Schofield et al. At the pre-admission clinic, the patient could be instructed to telephone on the day before surgery to confirm arrangements (as is done at some hospitals). This does require staffing the telephone, but puts the onus back on the patient. A late cancellation could then be substituted by a "stand-by" patient, thus avoiding a vacancy on the list. Although cases of sudden illness will still occur (when 4% of staff of large hospitals are on sick leave at any one time, inevitably some patients will be sick too), only a very small number will become acutely ill after 19:00 on the previous day.

Wu's second point, concerning administrators' views of elective surgery, is even more important. As Cregan points out, elective surgery is the easiest service for health administrators to manipulate to meet budgetary requirements.[2] It is essential that, somehow, beds (and intensive care beds) for elective surgery are effectively quarantined to give certainty to patients and staff. The 23-hour model described by Ryan and colleagues[3] is a method of achieving this.

There is a shortage of surgeons — a fact recognised by the Royal Australasian College of Surgeons and by governments. The training of new surgeons relies heavily on the elective surgery lists of public hospitals. The governments of New South Wales and Victoria have been agitating for the accreditation of more surgical trainees. This becomes a nonsense when an adequate supply of elective surgical patients is denied by financial restrictions and hospital policies that deliberately restrict elective surgical beds. As elective surgery is at the heart of the training of future surgeons and surgical nurses, attention to this problem should be a top priority of all governments.

1 Schofield WN, Rubin GL, Piza M, et al. Cancellation of operations on the day of intended surgery at a major Australian referral hospital. *Med J Aust* 2005; 182: 612-615.
2 Cregan PC. The easiest cut: managing elective surgery in the public sector [editorial]. *Med J Aust* 2005; 182: 605-606.
3 Ryan R, Davoren J, Grant H, Delbridge L. A 23-hour care centre model for the management of surgical patients. *ANZ J Surg* 2004; 74: 754-759. ❑

Detection of diagnostic and therapeutic radionuclides by US homeland security: a new travel hazard

Jim R Stockigt,* Zita E Ballok,† Victor Kalff†

* Endocrinologist, † Nuclear Medicine Physician, Epworth Hospital, Richmond, and Alfred Hospital, Commercial Road, Prahran, VIC 3181.
jrs@netspace.net.au

To the Editor: An Australian businessman travelled to the United States by air 1 week after receiving a second therapeutic dose of 8 mCi (300 MBq) iodine-131 for thyrotoxicosis due to Graves' disease. He carried no medical documentation, but had with him carbimazole tablets, to be recommenced 1 week after the dose.

While awaiting passport clearance at Los Angeles, he noticed that an attendant from homeland security was monitoring the line of passengers with a hand-held device no larger than a mobile phone. He was approached and asked if he was a doctor, or if he was under medical treatment. He indicated that he had received radioiodine recently. The official appeared to be aware of the situation and moved him to the front of the line. He was asked whether he had a letter from his doctor or whether he had medication with him. No letter was to hand, but the medication was shown. He was escorted to collect his baggage and was taken aside for detailed questioning. His luggage and person were searched in detail and information entered into a database. The episode caused significant distress.

On two occasions during the next week, he re-entered the US from Canada, by which time he had a letter that documented his medical treatment. On each occasion he was detected by the surveillance system, and questioning and search procedures were repeated.

Current radiation detection devices in use at airports appear to have very high sensitivity.[1] A recent detailed study that compared the sensitivity of various hand-held radiation detectors in recording various radionuclides,[2] showed that therapeutic doses of I-131 could be detected for up to 95 days, F-18 FDG was detectable for 1 day, Tc-99m would trigger the alarm for 3 days, and Tl-201 or Ga-67 could be detected for up to 30 days.[2] The authors of that study concluded:

> . . . personal radiation detectors used for Homeland Security are extremely sensitive and may detect low levels of radionuclides for long periods of time. Patients should be appropriately counselled to carry information regarding administration of diagnostic and therapeutic radiopharmaceuticals for these extended periods.

Some devices are quoted as being able to detect 0.01 MBq of I-131 at 2 m—3 m,[1] a level of activity that might still be present 3–4 months after treatment with 400 MBq (about 11 mCi) I-131, within the standard dose range for thyrotoxicosis. It is now a medical responsibility to make people who have received relevant radionuclides such as I-131, Tl-201 or Ga-67 aware of this travel hazard, to avoid unexpected apprehension in circumstances that cause delay and distress. Such patients should ensure that they carry appropriate medical documentation with them when they travel and should be aware that they may be interrogated and searched, even if they have documentation.

To our knowledge, no similar surveillance is currently used at Australian airports.

1 MacDonald J. Release of patients after therapy with unsealed radionuclides. International Commission on Radiation Protection [book review]. *J Radiol Prot* 2005; 25: 219-220.
2 Zuckier L, Stabin M, Garetano G, et al. Sensitivity of personal homeland security radiation detectors to medical nuclides and implications for counseling of nuclear medicine patients. Radiological Society of North America, 90th Scientific Assembly. Chicago, 28 November to 3 December 2004. Abstract SSJ19-01. Available at: http://rsna2004.rsna.org/rsna2004/V2004/conference/event_display.cfm?em_id=4407767 (accessed Oct 2005). ❑

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