



clinically stimulating jobs in the UK. A conversation with Mr Chris Dark, Medical Representative of BUPA (one such private hospital group), revealed his initiation of the enforcement of the Acute Cardiac Life Support and Paediatric Life Support courses for their particular resident medical officers due to a previous disastrous event in one of their hospitals/nursing homes. A very sound reason.

Thousands of South African doctors are being put through courses under false pretenses in order to place them in the lowest-paid medical position in the UK (around £7/hour compared with the norm of £25 - 32 per hour) and to confine them to a contract for 3 - 12 months. Doctors are also generally only allowed to work 2 weeks per month and must live off their earnings to subsidise their accommodation during their 'off weeks'. I speak from personal experience as well as on the basis of countless complaints from doctors caught up in this system in the UK.

Readers should feel free to contact me, should they wish to discuss the above.

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Intravenous infusion — the case for keeping vitamin C in the emergency drug cupboard

To the Editor: In a letter to the *Journal* towards the end of 2001, Dr C E Beyers reported on the rapid response of a patient with amphetamine overdose to an intravenous infusion of vitamin C.¹ This serves as a reminder of the value of a safe, non-toxic acidifying and/or reducing agent for intravenous use in emergency situations. Ascorbic acid is ideal as such an agent and its clinical use outside of treating scurvy (and as a questionable prophylactic for the common cold) is worth restating.

My own experience with vitamin C as a life-saving agent began as a fairly new medical registrar at Addington Hospital. I was called in the early hours of the morning to see a young fireman who had been rushed into casualty with respiratory difficulty. The history given was that he had collapsed while extinguishing a fire in the hold of a ship in the harbour. No one could tell us what cargo had been in the hold.

A striking feature, apart from the grave condition of the patient, was a rather odd brownish-grey hue to his skin and mucous membranes in addition to cyanosis. Blood taken from the patient was a chocolate brown colour, suggesting the diagnosis — rapidly confirmed by the laboratory — of methaemoglobinemia.

The problem, of course, was how to treat this. The *Merck Manual* gave a list of causes as long as an arm but no suggested treatment. *Harrison's Principles of Internal Medicine* recommended emergency treatment with intravenous methylene blue. Ascorbic acid was mentioned as oral treatment in non-emergencies.

With methylene blue not readily available, and a reluctance to dabble in the unfamiliar in a crisis, it was decided to set up an IV infusion of vitamin C.

As with Dr Beyers' case (although the disease process being treated was different) the response to vitamin C was dramatic. By mid-morning we were having great difficulty convincing the patient to stay in the ward a little longer just for observation!

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1. Beyers CE. Rapid recovery from history intoxication. *S Afr Med J* 2001; 95: 706-708.

Bone densitometry — role of quantitative CT

To the Editor, Solomon and Jacobs¹ feel that the Clinical Guideline published by the Osteoporosis Working Group in September 2000² understates the value of quantitative computed tomography (QCT) and make a plea that 'its complementary role should be acknowledged'. They proceed to compare QCT with dual energy X-ray absorptiometry (DEXA) and conclude that QCT 'has been shown to outperform planar imaging approaches, such as DEXA, in discriminating subjects with and without vertebral fractures'. They finally recommend that 'most modern radiology practices should have the facility on their scanners'.

As the principal author of said clinical guidelines, now over 2 years old, I do acknowledge that some updating is required. However, DEXA still remains the internationally accepted gold standard to measure bone mineral density (BMD), diagnose osteoporosis and monitor response to therapy — a view shared not only by our local Foundation, but also by the European Osteoporosis Foundation,³ the American National Osteoporosis Foundation⁴ and The Royal College of Physicians. Statements that QCT is 'the most sophisticated method of evaluating BD' and therefore fracture risk is simply not substantiated. The most feared complication of osteoporosis is a hip fracture — the best way to assess risk of sustaining a hip fracture, is to measure hip BMD.⁵ QCT cannot measure hip BMD! The question of normative data poses another problem for the care



physician. The World Health Organisation (WHO) classification of osteoporosis refers to Caucasian, post-menopausal females and is based on DEXA-derived T-scores.⁶

Extrapolation to other populations or other techniques to measure BMD is not permissible. Moreover, in South Africa, with its heterogeneous populations, normative data provided by the manufacturers are totally useless — especially in our black population groups.⁷ Whereas QCT is arguably more accurate than DEXA, I am unconvinced that it is as precise — a precision of 1–2% may very well exist in a group of healthy young radiographers studied, but this is certainly not the case in the geriatric, osteoporotic population we serve.

To conclude, I cannot agree more that QCT has an important complementary role to play in the diagnosis of osteoporosis, especially if DEXA reveals discrepant spine and hip (the preferred site) BMD values. I would, however, argue against the suggestion that all radiology practices should have this facility as a matter of routine and, given its obvious limitations, that QCT should be advocated as the initial method of choice to diagnose osteoporosis. Instead, radiology practices which have an interest in QCT to measure BMD, should be encouraged to become local referral sites for this important complementary assessment. Excellent quality control and the establishment of normative data will be necessary. In the meantime, DEXA of the hip and spine should remain the gold standard to diagnose osteoporosis.

Stephen Hough

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1. Solomon D, Jacobs P. Bone densitometry — role of quantitative computed tomography. *S Afr Med J* 2002; 92: 496.
2. Hough PS, for the South African Medical Association Osteoporosis Working Group. Osteoporosis Clinical Guidelines. *S Afr Med J* 2000; 90(5), part 2: 805-844.
3. Kanis JA, Delmas P, Berckhart R, Cooper C, Torgerson D on behalf of the European Foundation for Osteoporosis. Guidelines for diagnosis and management of osteoporosis. *Osteoporos Int* 1997; 7: 995-1106.
4. National Osteoporosis Foundation. *Physician's Guide to Prevention and Treatment of Osteoporosis*. New Jersey: Elsevier Medical, 1998.
5. Compston JE, Cooper C, Kasis JA. Bone densitometry in clinical practice. *BMJ* 1995; 310: 1307–1310.
6. World Health Organisation. Assessment of fracture risk and its application to screening for postmenopausal osteoporosis. *World Health Organ Tech Rep Ser* 1994; No 843.
7. Daniels ED, Pettifor JM, Schützler CM, et al. Differences in mineral homeostasis/volumetric bone mass and femoral neck axis length in black and white South African women. *Osteoporos Int* 1997; 7: 105-112.

To the Editor: I am very pleased to note in a letter from Drs Solomon and Jacobs' a problem encountered with the accuracy of dual energy X-ray absorptiometry (DEXA) scans for osteoporosis. It is a well-known fact that DEXA bone mineral density (BMD) acquired in the posteroanterior (PA) direction can be inaccurate and give falsely elevated values, especially in the mature adult where the X-ray beam is unable to distinguish bone cortex, osteophytes, degenerative sclerosis in vertebral joints, aortic calcification, etc. Quantitative computed tomography (QCT) measures trabecular bone and no one has

denied its accuracy. Complaint about its use has been in terms of accessibility, radiation dose compared with DEXA scanning, accurate reproducibility for comparison studies, and cost.

Faulkner *et al.*² and Finkelstein *et al.*³ clearly pointed out in elegant studies how the method of measurement of spinal BMD alters the 'results'. Lateral lumbar spine BMD evaluation has recently become available in South Africa enabling for the first time measurement of truly cancellous spinal bone simply and cheaply with DEXA scanners with minimal radiation dosage. Confirming the findings of these authors, a study has also been done in this country by the undersigned, which is in press,⁴ where 35% of the cases of bone loss estimation had to be upgraded because of the facility of lateral scanning of the lumbar spine and the availability of assessing the dorsal and lumbar spine morphologically at the point of service at no additional cost.

Osteoporosis is a huge burden on our society, as it is universally. It is estimated that 30% of the female population will suffer from it and its effects, which absorb huge clinical and financial costs and involve much pain and suffering. The *SAMJ* refused to publish a study confirming the above information because the Editor stated that these facts were of 'no interest to its readers'. It is being published elsewhere.

Thank you Drs Solomon and Jacobs for bringing the inaccuracies of PA-directed DEXA scans of the lumbar spine to the attention of the general medical public.

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1. Solomon D, Jacobs P. Bone densitometry — role of quantitative computed tomography. *S Afr Med J* 2002; 92: 496.
2. Faulkner RG, van Stetter E, Miller PJ. Discordance in vertebra classification using T scores. *Journal of Clinical Densitometry* 1999; 2: 343-350.
3. Finkelstein JS, Cleary RL, Butler JT, et al. A comparison of lateral versus antero-posterior spine dual energy X-ray absorptiometry for the diagnosis of osteoporosis. *J Clin Densitometry* 1998; 1(4): 754-759.
4. Sneider P. Osteoporosis and osteoporosis: The importance of vertebral fracture assessment and lateral bone mineral density measurement at the point of service (in press).

Professor Steve Beningfield, Head of the Department of Radiology, University of Cape Town, comments: The expert group of the American College of Radiology Appropriateness Criteria on Osteoporosis and Bone Mineral Density¹ (revised 2001) makes the following points on the subject:

Bone mineral density (BMD) measurement is beneficial to both patient and society as a means of early detection and treatment of osteoporosis before fractures occur, as well as in following the response to therapy. They emphasise that densitometry evaluations should only be performed when the results will affect clinical decisions. Changes in trabecular (cancellous) bone occur more rapidly than in cortical bone. The spine is the classic site for trabecular bone density



determination; cortical bone density can be measured in the femoral neck.

Concerning the specific modalities, their view is that dual energy X-ray absorptiometry (DEXA) sets the standard, has a low error rate, can be applied to multiple sites and requires a low radiation dose. This dose ranges from 5% up to that of a full chest radiograph. Frontal lumbar spine DEXA remains the reference technique, followed by hip DEXA.

To what extent do promotional issues cloud this debate? — Editor

Legal termination of pregnancy

To the Editor: The September 2002 issue of the *Journal* includes a valuable analysis of legal termination of pregnancy among teenagers and older women in Soweto.¹ The methods used were not indicated, but in all likelihood these were surgical.

I note that in the same issue of the *Journal* (pp. 670 - 671) there is an advertisement for the use of mifepristone and misoprostol in early pregnancy, now legalised for use in South Africa. It has been shown that some applicants for termination of pregnancy prefer this method. Are there any controlled trials being done in South Africa, looking at the practicality of the various methods and client choice? In addition, this challenging work takes its toll on staff, who may appreciate non-surgical methods.

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1. Buchmann EJ, Msimah K, Pflay F. Legal termination of pregnancy among teenagers and older women in Soweto. *S Afr Med J* 2002; 96: 729-731.

The area needs certificate

To the Editor: It was with a profound sense of foreboding and impending doom that I read the article titled 'Ignore incoming needs laws at your peril' by Chris Bateman in the August SAMJ.¹

This sinister legislation as it is proposed will lead to the collapse of private practice in South Africa, the nationalisation and theft of the medical profession's intellectual and physical property, the infringement of our fundamental constitutional right as South African citizens to work and derive an income in a location of our own choosing, and an absolute stranglehold on the entire medical profession as a whole. Eventually instead of solving the maldistribution problem it will worsen it, as it

will surely lead to an even greater exodus of skilled medical personnel to other countries.

Once doctors are licensed to geographical areas no doctor will be able to move without the permission of some governmental licensing board or bureaucrat; i.e. a doctor in private practice will not be able to move to a new town of his choice and a state doctor will not be allowed to move into private practice in an area of his choice. Doctors will be locked into a system where their every move will be monitored and necessitate prior approval from the governing boards in the various provinces.

To date no one has spelt out to the doctors the exact nature of these faceless licensing boards. Who will choose them, who will control them, what will be the qualifications of the board members, will there be any doctors on the board, and if so, will they come from any particular group? The very fact that we have not been informed about these questions makes one suspicious of these licensing boards.

The potential for corruption will be enormous, with doctors vying for the best positions and with bureaucrats accepting perverse incentives to place people where they wish to be.

The bureaucratic delays in deciding who goes where will be horrific, with political considerations and ethnicity playing their roles in helping to bog down the whole process.

What recourse to the law will unhappy doctors have if these measures are instituted? This should be spelt out to us before it becomes law.

These boards will be able to blackmail doctors into working where they don't wish to. For instance a busy private practitioner could be coerced into doing casualty night calls in the local government hospital if threatened with the withdrawal of his licence to private practice. It will be used as a weapon, with devastating effectiveness!

Radiologists and pathologists will not be able to acquire new and updated equipment without prior governmental approval. This will remove the incentive to improve their techniques and specialised services, thus dooming these specialties to third-rate mediocrity. No doctor in his right mind is going to invest huge amounts of money in a practice which may be taken away from him at the whim of some unknown board.

State doctors, should they become unhappy with their poor salaries, equipment, safety and working conditions, will have nowhere to go. They will be locked into government hospitals because there will be no place, of their choice, for them in the government-controlled private sector!

Allied medical services and private hospitals will also be affected and sooner or later they too will be hijacked, governed and controlled by nameless faceless licensing boards.

People say that this licensing is the norm in the USA, Canada, Australia, etc. However we are a very different