Neutron radiotherapy: Society comments

To the Editor: The radiation oncology community in South Africa can no longer support the continuation of neutron therapy. The lack of new phase III data to support this treatment modality and the fact that patients numbers never really materialised resulted in very inefficient utilisation of available resources that could have been better spent. Progress in clinical and radiation oncology during the past 20 years with new technologies readily available in this country resulted in even fewer reasons to continue this programme. The logistics involved in trying to utilise this as a national resource – which would be the same if one were to try and argue for this to be used as a resource for the continent of Africa – would result in even less benefit to society as a whole.

South Africa can no longer afford to fund such programmes given the many competing priorities in oncology and health in general. To do so would border on being socially irresponsible.

Samuel Fourie
Chairman of the South African Society of Clinical and Radiation Oncology
sfourie@sunset.org

Raymond Abratt
Radiation Oncology
Groote Schuur Hospital and University of Cape Town
raymond.abratt@uct.ac.za


Neutron radiotherapy: Abratt supported

To the Editor: We write, with some unease, given that much of this matter is internal to the medical affairs of South Africa (SA), to lend support to the stance of Prof Abratt,1,2 regarding closure of the neutron facility in SA.

We recognise clearly the limitations of participating in this debate when we are not South African and do not practise medicine in the African continent. That said, there are points of illogic in the criticisms of Prof Abratt’s stand that must be challenged.

Firstly, the rhetoric supporting the purported importance of recent research on neutron therapy, and the charge that Prof Abratt’s view of neutron therapy is outdated, are simply unreasonable. The whole issue of the utility of neutron therapy remains highly controversial internationally after more than 25 years of research and clinical practice. The issues remain unchanged: lack of proven benefit, narrow spectrum of clinical indications, offset by excessive toxicity demonstrated in the majority of published studies. While we recognise the difficulty of completing randomised clinical trials in this setting, it is important to note the absence of high-quality data to support this expensive technology.

Despite the claims of the proponents of such research on the topic of neutron therapy, we note a paucity of well-structured published research on the role of this treatment modality. It appears that the majority of use of available equipment has been for routine clinical practice, despite the absence of significant, recent published data to support such therapy; one might have hoped that investigational equipment might have been used to produce new data.

Perhaps of more importance, in a continent that is challenged by a shortage of costly medical resources, it seems important to make a case for maintenance of an expensive, controversial, unproven therapy with so few indications, and to criticise an earnest and honest attempt to bring reason to the debate. We support Prof Abratt’s view, based on logic, fiscal pragmatism, and recognise his presence as a leader in academic radiation oncology with several decades of carefully structured published data.

Michael Steinberg
Radiation Oncology, David Geffen School of Medicine
UCLA, USA

Howard Sandler
Radiation Oncology, Cedars-Sinai Medical Center
Los Angeles, CA, USA


Traumatic rhabdomyolysis (crush syndrome) in the rural setting

To the Editor: I read with interest the article entitled “Traumatic rhabdomyolysis (crush syndrome) in the rural setting.” Crush syndrome from sjambok injury is a uniquely southern African experience.1 It is unfortunately commonplace, making treatment guidelines essential to prevent the progression of acute kidney injury (AKI) and subsequent need for renal replacement therapy. The advent of the RIFLE and AKIN criteria in the description and risk stratification of AKI provides a framework from which strategies to prevent ongoing injury can be implemented.2 Their use has become commonplace in critical care and should be implemented in the emergency department.

Careful monitoring of fluid balance is essential, and a paper discussing the ATN and RENAL trial results shows that avoiding a positive fluid balance improves renal recovery times.3 Therefore I urge caution in trying to force a diuresis with resuscitation fluids if patients present with anuria/oliguria and do not respond to initial fluid therapy as they can be pushed into fluid overload with subsequent need for ventilatory support.

Alkalinaisation of the urine with bicarbonate has been challenged as the standard of care. Evidence for this practice is weak; in 2083 trauma ICU admissions, Velmahos’ group failed to show improvement in outcomes despite urinary alkalinaisation.4

The use of diuretics in AKI does not improve mortality outcomes and the use of renal replacement therapy. Mannitol has also been implicated as a cause of AKI in head-injured patients and should be used with caution.

At present, measuring serum creatinine and urine output remain two of the best indicators of renal function that are easily available to the clinician. These remain our renal biomarkers of choice until the use of newer renal biomarkers, such as neutrophil gelatinase associated lipocalin and cystatin C, becomes commonplace. Patient therapy must be individualised, with haemodynamic optimisation and careful monitoring of fluid balance, specifically concentrating on urine output. Care must be taken to avoid nephrotoxic agents such as intravenous contrast and aminoglycosides. Early referral for renal replacement therapy is essential in those not responding to conventional fluid therapy.

D L Skinner
Level 1 Trauma Unit and Trauma ICU
Indians Albert Luthuli Central Hospital
Durban
drdskinnersn@gmail.com

Wood replies: Traumatic rhabdomyolysis is often a result of natural disasters such as earthquakes where patients are crushed by debris. However, rhabdomyolysis associated with interpersonal violence such as sjambok injuries and community beatings is endemic to South Africa. Most of these patients present to district or regional hospitals with limited diagnostic capabilities and no renal replacement therapies such as renal dialysis. Our study suggests that early diagnosis of rhabdomyolysis by using clinical examination and blood on urine Dipstix as a surrogate marker is critical in preventing ensuing myoglobin-associated acute renal failure. Key diagnostic test should be available for interpretation of the results. The information on the false-positive rate of each commercial kits for HIV molecular testing differ in their false-positive rates, and the authors’ conclusions are based on a single centre with retrospective data review, which cannot control for the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report. The basic concept to consider when discussing the diagnostic property of a test is that prevalence is the main factor determining sensitivity, specificity and predictive values, which can be reflected in their report.


Feucht replies, on behalf of the authors: We thank Professor Wiwanitkit for sharing ideas on our paper and highlighting the importance of the laboratory quality control matters, including knowledge on false-positivity rates of different test kits and use of test kits of highest quality. During our study, the great majority of HIV DNA PCR tests were done using the Amplicor HIV-1 DNA test, version 1.5 (Roche Molecular Systems), while during the last year of our study the Cobas AmpliPrep/Cobas TaqMan (‘CAP/CTM’) HIV-1 Qual test (Roche Molecular Systems) was introduced, which is less labour-intensive and has a shorter turnaround time. The report from Maritz et al.\(^1\) on the comparison between the Amplicor and the CAP/CTM tests is of concern, owing to reported lower specificity of the CAP/CTM test. As shown in our study, any decrease in test specificity would greatly decrease the positive predictive value of any one positive HIV DNA PCR test result in the context of the rapidly decreasing prevalence of HIV infection in babies on whom routine testing is done as part of prevention of mother-to-child transmission (PMTCT) programmes.

We acknowledge the concern that our study was a retrospective review from a single centre. Our intention was to study how well the HIV DNA PCR test performs in an everyday clinical setting within a large-scale HIV programme. Our conclusion was that the false positivity rates that clinicians were experiencing can be explained by the test specificity combined with the epidemiological changes of the rapidly decreasing HIV prevalence in babies undergoing routine testing as part of the PMTCT programme.


**Correction**

We regret that an error occurred on p. 803 of the November 2011 issue of SAMJ. The book *An Uneasy Story. The Nationalising of South African Mission Hospitals 1960 - 1976. A Personal Account* was reviewed by Neil Cameron, not by David Cameron. The online version was corrected on 26 March 2012.