brain and oral cavity. This has led to their widespread use in evidence-based patient management. Radiation oncologists in SA, as elsewhere, will seek to participate in clinical research based on these and other novel approaches.

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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.

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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importance of recent research on neutron therapy, and the charge that Prof Abratt's view of neutron therapy is outdated, are simply unreasonable.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 importune 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.

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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'.[1] Crush syndrome from sjambok injury is a uniquely southern African experience.[2] 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.[3] 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.[4] 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.

Alkalinisation of the urine with bicarbonate has been challenged as the standard of care. Evidence for this practice is weak; in 2 083 trauma ICU admissions, Velmahos' group failed to show improvement in outcomes despite urinary alkalinisation.[5]

The use of diuretics in AKI does not improve mortality outcomes and the use of renal replacement therapy.[6] Mannitol has also been implicated as a cause of AKI in head-injured patients and should be used with caution.[7]

At present, measuring serum creatinine and urine output remain the two 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.[8]

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.

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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[1] suggests that early diagnosis of rhabdomyolysis using clinical examination and blood on urine Dipstix as a surrogate marker are critical in preventing ensuing myoglobin-associated acute renal failure. Key to management is early and aggressive fluid management (a target of 200 - 300 ml/h urine output)[2] to prevent renal tubule damage. A low urine pH augments myoglobin cast sedimentation[3] and renal tubular damage. Some guidelines[2,3] suggest the use of bicarbonate, with a target urine pH >6.5, to reduce this effect. Caution is advised with bicarbonate therapy since hypocalcaemia, hypernatraemia, systemic alkalosis and potential tetany are potential adverse effects. Most guidelines also recommend the use of mannitol in oliguric patients.[2,3] Theoretical advantages of mannitol include osmotic diuresis, free radical scavenging and stimulating the release of vasodilatory prostaglandins, enhancing glomerular filtration. The use of mannitol and bicarbonate is controversial, with new evidence suggesting that their use is of no benefit in rhabdomyolysis.

One study showed that bicarbonate and mannitol therapy had no advantage in preventing renal failure over saline diuresis alone.[4] However, the study was not randomised and patients in the mannitol/bicarbonate group had an overall higher average creatine kinase, suggesting a more severe pathology. The study indicated that patients with a creatine kinase >30 000 U/l may benefit from mannitol/bicarbonate therapy.[4,5] The use of mannitol and bicarbonate in this setting should be revisited.

In settings with limited or no renal support such as renal dialysis, preventing renal failure in traumatic rhabdomyolysis is critical. Early detection of rhabdomyolysis and fluid therapy is the cornerstone of renal saving. Patients who do not respond to fluid resuscitation and show an increasing trend toward renal failure as indicated by a climbing serum creatinine may need additional treatment strategies when dialysis services are not an option. They should have their intravascular volume monitored, which in most settings is limited to central venous pressure monitoring, before the use of diuretics such as mannitol is considered. Strict monitoring of urine and serum pH when considering the use of bicarbonate is recommended. Our small observational study in a rural regional hospital showed that patients with suspected rhabdomyolysis can be effectively treated using recommended guidelines where resources are not adequate for renal replacement treatments. Serious clinical dilemmas exist when patients don't respond to fluid therapy alone and show worsening renal functions, and where there is no recourse to services such as renal dialysis.

Large prospective randomised controlled trials are required to provide clarity on the most effective treatment strategies in trauma-associated rhabdomyolysis, especially in the resource-challenged areas to which most patients present.

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False-positive HIV DNA PCR testing of infants

To the Editor: I would like to share ideas on the report by Feucht *et al.* who concluded that 'Decreasing mother-to-child HIV transmission rates reduce the positive predictive value of a single HIV DNA PCR test result, necessitating adaptations to diagnostic algorithms to avoid misdiagnosis and inappropriate treatment, especially with early initiation of antiretroviral therapy in asymptomatic infants.'[1]

False positivity is basic in laboratory medicine and can result from any tests, including molecular diagnoses. 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 authors' conclusions are based on a single centre with retrospective data review, which cannot control for the confounding factors and quality of the laboratory test.

Despite the use of molecular testing for HIV diagnosis, practitioners must be concerned about the possibility of false positivity, as available commercial kits for HIV molecular testing differ in their false-positive rates.[2] The information on the false-positive rate of each diagnostic test should be available for interpretation of the results. There should also be a focus on the quality of the diagnostic test, as poor quality of some locally available in-house HIV molecular testing owing to contamination has been reported.[3]

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