

Why some Africans stand out in a crowd: BokSmart for injury prevention and other SASMA-related jewels

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The giraffe (*Giraffa camelopardalis*) pictured on the front cover has more similarities to us than we might think. Their necks, like ours, contain seven vertebra. The classical Darwinian explanation for the remarkable feat of biological engineering that is the elongated giraffe's neck being that it allowed them to reach higher branches. As a consequence, these giraffes were more reproductively successful since they had untouched food sources while giraffes of lesser stature perished due to competition.^{1,2} Giraffes can feed at a variety of levels but have the ability to reach high during times of tough competition – sound like a few sportsmen you know? The giraffe's cardiovascular adaptations to overcome massive gravitational forces include a bigger heart (a great exercise benefit!) said to be twice as powerful a pump as other animals', while the tight skin and tough fascia of their legs has been mimicked by National Aeronautics and Space Administration scientists in the design of astronauts' gravity suits.³ But perhaps the most interesting feature of the giraffe, as they gracefully stride across the African savannah, is its visibility – the ability to stand out in the crowd. As much as the height advantage may provide it with a perspective of its surrounds, it may also make it vulnerable to predators. Similarly, 'sticking your neck out' as a sports and exercise researcher or clinician may make one feel vulnerable to criticism but bring recognition from one's peers.

BokSmart stands out....

Dr Wayne Viljoen, manager of South African Rugby's safety programme, is an African who has reached the high hanging fruit. Taking the best of other international injury prevention models, using the expertise of key opinion leaders and, most importantly, applying Van Mechelen and Finch theories, Wayne has moulded the *BokSmart* injury-prevention programme into a leading example of effective research translation. *BokSmart* is efficient because it is based on a strategy that targets those closest to the injured player – coaches and referees. Its fivepoint plan of action somewhat belies the complexities of implementing protocols across the geographically and socially diverse South African landscape but Wayne has remained true to these important tenets:

1. Ongoing training and education of coaches and referees (38 500 in two years!) in rugby safety and injury prevention.
2. Developing medical protocols based on international best practice.
3. Ongoing injury surveillance and research.
4. Altering the game's legislation to minimise injury.
5. Marketing safety in rugby through free educational portals.

The 'mystery' of head and neck injuries

Albert Einstein wrote: 'The most beautiful experience we can have is the mysterious. It is the fundamental emotion that stands at the cradle of true art and true science. Whoever does not know it and can no longer wonder, no longer marvel, is as good as dead, and his eyes are dimmed.'⁴

Even experienced clinicians have remarked how the grey area of concussion management often leaves them in a predicament.⁵ This edition of *BJSM* opens our eyes to the challenges of head and neck injuries in sport and we embrace the 'mysteries' of minor traumatic brain trauma and better understand the complex mechanisms of catastrophic neck injury.

To do this we have packaged a number of excellent papers intended to encourage debate and change practice. This aligns with *BJSM's* focus – 'Serving clinicians in sport, exercise and physical activity' and Association (SASMA)'s dictum of 'World class in Africa' by highlighting the work of *BokSmart*.

In *BJSM*...

Winning by a neck...

In introducing something of an international rugby flavour, Maclean describes the persistent risk of neck injury in rugby particularly in the scrum and, increasingly, the tackle situation (**see page 591**). Kuster *et al* analyse historical perspectives on mechanisms of neck injury in rugby (**see page 550**) while bioengineer Dennison's editorial (**see page 545**) suggests some alternative pathomechanics. All agree that an understanding of these mechanisms is necessary to implement and enforce the law changes that may lead to fewer injuries. Poulos (**see page 585**) looks at the efficacy of the 'Mayday' call to relieve pressure in potentially dangerous scrums in Australian rugby union – the role of

coaches is critical here. Oh yes, and if you want to win the Rugby World cup you would better have tall backs, heavy forwards and a good dose of experience! (**see page 580**).

Continuing to unravel the mystery...

Concussion rears its head (have you registered for the 4th International Conference on Concussion in Sport in Zurich? See <http://concussion-in-sport.com/2012/register/>). Sridhar Alla together with Paul McCrory analyses the term 'asymptomatic' (**see page 562**) while Castile examines 6 years of high-school concussion data (**see page 603**).

Making it meaningful...

Donaldson illustrates the importance of behaviour change, implementation and translation in Rugby Union (**see page 585**). But does childhood activity predict adult trends? See Cleland's fascinating 20-year prospective tracking study (**see page 595**).

Out of Africa...and into action!

Ross Tucker (yes, he of <http://www.sportsscience.com> and @ScienceofSport) and Malcolm Collins (South African gene-ius) revisit the nature versus nurture debate (**see page 555**) in determining elite sporting performance. Finally, tap into South Africa's rugby expertise and use the 1500 pages of age and position-specific rugby injury prevention and conditioning information at <http://www.boksmart.com>. Become Dr Wayne Viljoen's 'friend' at Facebook.

[com/Boksmart](http://www.boksmart.com), follow him on Twitter @BokSmart and view the injury videos and interviews on YouTube. *BokSmart* is a programme that has stuck its neck out and, like the majestic giraffe, stands out in the crowd.

Enjoy this issue of *BJSM* and keep SASMA's October 2013 conference on your medium-term radar (<http://www.sasma.org.za>). And if you are a SASMA member, remember you can access all *BJSM* content free of charge via the SASMA website. Send us your feedback (jpat@mweb.co.za).

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