Communication and Marketing Department
Isebe loThungelwano neNtengiso
Kommunikasie- en Bemarkingsdepartement
Private Bag X3, Rondebosch, 7701, South Africa
Tel: +27 (0) 21 650 5427/5428/5674
www.uct.ac.za | www.news.uct.ac.za

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UCT research reduces concussions through changing tackle laws in rugby

Dr Sharief Hendricks Photo: Nasief Manie

Protecting players from injury without taking away the physical contest that makes the sport compelling forms part of the research led by University of Cape Town's (UCT) Dr Sharief Hendricks and his colleagues at the UCT Health through Physical Activity, Lifestyle and Sport (HPALS) Research Centre and Leeds Beckett University.

For years, rugby has faced the difficult challenge of this balancing act. Their work is contributing to changes in tackle laws to reduce concussions across the game.

Dr Hendricks' work extends well beyond a single sporting code. His research and consulting collaborations include the South African Cricketers' Association, the South African Sports Confederation and Olympic Committee, sporting teams and international sporting bodies. He has also experienced sport from the stakeholder side, serving on the board of the South African Institute for Drug-Free Sport and on the Olympic Committee's High-Performance Commission.

That dual perspective, as both a researcher and a stakeholder, has shaped his approach to translating scientific evidence into practical solutions.

The collaboration with World Rugby began with a straightforward yet important question: Would lowering the tackle height reduce the risk of concussion?

"There is a high risk of concussion in rugby union," Hendricks explained. World Rugby wanted to know whether changing the laws of the game could measurably improve player safety.

The research team, led by Dr James Brown, conducted a trial in 2018 and 2019 in collaboration with Stellenbosch University, leveraging the university's rugby environment to investigate the effects of a lower tackle height.

The results were intriguing. The study found a "31% non-significant reduction in concussion" over the period. Although the result did not reach statistical significance, Hendricks and his colleagues argued that the reduction could still be "clinically relevant".

From research finding to law change

World Rugby took the research and considered it alongside evidence and perspectives from players, unions and other stakeholders. It had to consider what Hendricks described as the balance between "safety and spectacle" – determining how much the game could be changed to improve safety while preserving the character of rugby.

The evidence ultimately led to a significant change in the sport. World Rugby introduced lower tackle-height regulations across participating unions, requiring players at the youth and community levels to tackle below the sternum. The policy was implemented internationally, including in Italy, a participating union.

For Hendricks, the project's significance goes beyond the tackle law itself. It demonstrates what can happen when researchers and sporting organisations work together from the beginning. "You can come up with a really, really good idea," Hendricks said, "but it doesn't necessarily mean society will take it up."

The team became interested in the factors influencing whether players, coaches and teams actually adopt the new approach. Their work began to draw on the diffusion of innovation theory – examining why some ideas become widely adopted while others struggle to gain traction.

For rugby, that means looking beyond the wording of the law and asking practical questions. Are coaches equipped to teach a lower tackle? Do players understand the reasons for the change? What prevents teams from adopting safer techniques? And what support is needed to ensure the policy works across different sporting environments?

Measuring whether the change works

World Rugby subsequently asked the research team to evaluate the international implementation of the new tackle-height regulations.

The organisation provided individual unions with their own data, allowing countries and rugby bodies to examine the policy's effects within their own environments. Research into the global impact of the intervention is continuing.

"The external stakeholder is involved from the research question, data collection, all the way to exploring the data," he explained when describing the team's approach to collaborative research.

That relationship can also change the research itself. Scientists may understand the mechanisms behind injury, for example, but coaches and sports organisations understand the realities of implementing a new rule on the field.

This is where Hendricks sees the greatest potential for research to have an impact.

Building the bridge

He describes the relationship between researchers and external stakeholders as a bridge that connects scientific knowledge to real-world practice.

He said that bridge doesn't happen overnight.

For Hendricks, the goal is not simply to produce another academic publication. It is to generate evidence that can be understood, tested, debated and ultimately used.

In a sport where the physical contest is central to its identity, the challenge is to make the game safer without losing what makes it rugby. The tackle-height research shows how science can contribute to that conversation, not by dictating the answer, but by providing evidence that allows sporting organisations to make better-informed decisions.

"When you put in the time, the long-term project, you build the bridge," he said. "The flow runs both ways easily."

Story by: Myolisi Gophe, UCT News

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Issued by: UCT Communication and Marketing Department

Thami Nkwanyane
Media Liaison and Monitoring Officer
Communication and Marketing Department
University of Cape Town
Rondebosch
Tel: (021) 650 5672
Cell: (072) 563 9500
Email: thami.nkwanyane@uct.ac.za
Website: www.uct.ac.za