

# OP DIE KOP

Brush up on the A to Z of rugby and concussion

By EPETRO-ANNE VLOK and PETRUS MALHERBE

**C**ONCUSSION and rugby go hand-in-hand. It's part of the game and you can make a full recovery with the correct treatment. However, repeated knocks left untreated can have serious consequences, as club rugby player Alton Jacobs (29), from Buffeljagsrivier in the Western Cape, discovered.

Playing for Buffaloes Rugby Club in last year, Alton hit his head against another player's knee during the second half. His fiancée, Natro October (24), an admin clerk, recalls seeing Alton sit on his haunches after taking the knock, but with no paramedics present, he continued playing. After the match, and during the rest of evening, he hardly spoke a word and the next morning he couldn't remember Natro's name. She rushed him to Swellendam Hospital, from where he was transferred to Tygerberg Hospital in Cape Town.

"The doctors initially said he had a concussion, but after running another test, they confirmed that he'd had a stroke," Natro says.

The head trauma he suffered in 2014 wasn't his first, recalls Alton, who started playing rugby in primary school. He was also injured in a match when he was 16 and again when he was 22, playing for Buffaloes.

After his stroke, Alton had to relearn how to read and type on his cellphone, and had to quit his job as a coordinator in the department of sport, arts, culture and recreation because he struggled to keep up.

"I was never an angry guy, but now I sometimes get aggressive for no reason," he says. "When I was a young boy I used



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to stutter and now when I'm under pressure or stressed I struggle to get words out. I initially had trouble remembering, but my memory is coming back in phases. I'm not as I was before my stroke, but I'm getting better, little by little," he adds.

You have to take hard knocks if you play a tough contact sport like rugby, but what are the long-term side effects of these head injuries?

That's the question many asked after news broke that former Blue Bulls player Derick Hougaard (32) underwent brain scans in June to determine the source of his headaches and forgetfulness.

Statistics on concussion, the most common traumatic brain injury in rugby, are poor, as cases aren't always reported, says Dr Jon Patricios, a sports physician at the Centre for Sports Medicine and Orthopaedics in Johannesburg and co-founder of Sports Concussion SA. "One thing we can say is that the incidence is rising. It's not because there are more concussion occurring, it's because there's more awareness and education around it than five or 10 years ago."

We spoke to experts to find out more about concussion and rugby.

## Traumatic brain injuries in rugby

The spectrum of traumatic brain injuries range from mild to catastrophic, explains Dr Patricios. Catastrophic brain injuries can cause permanent neurological damage or even death, but are rare in rugby, with between two and three cases reported a year in SA.

Catastrophic brain injuries are seen more in sports such as cycling and horse-riding than rugby, he adds. But don't be misled by the term "mild", Dr Patricios adds. Even mild brain injuries need medical attention and could require you to rest while you recover.

## Causes

In rugby concussion is usually the result of a direct severe blow to the head, for example when colliding with another player or when the head strikes the ground, or because of whiplash, says Dr Kobus Hugo, a sports physician at the Lowmed Family Health and Sport Performance Centre in Nelspruit and team doctor of the Pumas.

All players are at risk of concussion, but those who take the most contact, such as tight and loose forwards and centres, may be at greater risk, says Dr Jason Suter, a sports physician at the Sports Medicine Mediclinic Constantia-berg and Stormers and Western Province team doctor.

## When you suspect concussion

There's a simple philosophy, Dr Patricios says: "Recognise, remove and refer."

If concussion is suspected, then the player must be removed and referred to a doctor who understands concussion, like a sports doctor, neurosurgeon or neurologist. A qualified medical professional can also determine if it's more than just concussion, like a rapidly expanding bleed on the brain, which could prove fatal if not treated, Dr Petrus Stone, a neurosurgeon from Bloemfontein, says.

The BokSmart rugby safety programme lists the following physical symptoms of concussion:

- Nausea
- Headaches
- Dizziness
- Tiredness
- Sensitive eyes
- Cognitive changes such as poor concentration, emotional changes like depression, irritability, anger and sleep disturbances.

## Signs everyone can look out for include:

- Confusion
- Inappropriate response or reactions
- Poor balance and coordination

But the symptoms can be very subtle. One way to test for concussion is with the Maddocks test, Dr Hugo says.

## Ask the player:

- What venue are we at today?
- Which half is it now?
- Which team scored last?
- What team did you play against last?
- Did your team win the last game?

If he gets one question wrong, or you're not satisfied with how he replied, remove him from the game. A concussed player who stays on the field is a sitting duck for a second injury. "His reflexes and reactions are much slower and a second blow will make things much worse. When in doubt, put him out," Dr Hugo says.

At provincial rugby-level television monitors in the stadium's medical room allow the match-day doctor to watch, pause and rewind footage from an ongoing game, Cheetahs team doctor Dr Louis Holtzhausen says. "If he suspects a concussion, he can contact the referee directly and tell him to send the player off the field for evaluation."

## SCHOOL RUGBY PROTOCOLS

South Africa is a world leader in identifying and treating concussion at professional level, but more should be done at school level, Dr Hugo says. Usually medical assistance at schools is provided by paramedics, who may not be trained to identify concussion.

BokSmart and Sports Concussion South Africa have programmes in place to educate schools, coaches and referees. Concussion South Africa also runs neuropsychological computerised tests for concussion at a number of schools, Dr Patricios says.

Players suspected of head injuries are immediately taken off the field, says Dr Kobus Uys, an orthopaedic surgeon who's in charge of first aid at Hoër Jongenskool Paarl. "A quick test is done in which a player has to repeat three numbers quickly and without hesitation from first to last and in reverse. Further tests, if necessary, are discussed with the family," Dr Uys says.

Paarl Boys High also runs rigorous conditioning programmes to identify muscle imbalance, weak muscle groups, good posture and functional movements so players can become au fait with protecting themselves well before the season kicks off.

## Treatment

Treatment involves regular monitoring and rest, Dr Holtzhausen says.

"There are two types of rest: physical and cognitive. You shouldn't do any physical exercise," he says. Because the brain is swollen by the concussion it's not advisable to increase circulation and blood pressure in the brain. "Then you need cognitive rest." In other words don't think too much and avoid activities that require you to concentrate.

If treated correctly, there shouldn't be any complications with concussion, Dr Patricios says. But a growing body of research suggests that repeated concussion, especially when not treated properly, may result in learning difficulties, memory problems and persistent physical symptoms associated with concussion. There's also a possibility that it can bring to the surface dormant emotional disorders, like depression and anxiety, but more research is needed into this, Dr Patricios adds.

If you took a few knocks playing rugby at school, it doesn't necessarily mean that any headaches and forgetfulness experienced in adult life are due to concussions. "Headaches later in life are more likely to have little or nothing to do with concussion and could rather be due to another condition that should be investigated," Dr Stone says. "The same goes for forgetfulness – there are other causes for forgetfulness later in life."

## Return to play

The time required to recover from concussion varies, but on average it's between three days and three weeks, Dr Holtzhausen says. "But some can take up to 10 weeks."

The guidelines are:

- No sport for two weeks if the player is 19 or younger. Adults need to rest at least 24 hours.
- Regardless of age, a player must be completely symptom-free.
- A doctor familiar with concussion must give the all clear.
- The player should get the same or better results in his baseline neurophysiological test. At the start of the season, all national and provincial players undergo a neuropsychological computerised test to assess their brain functions, Dr Holtzhausen says. This acts as a baseline test. A player who suffered concussion will repeat the test in order to compare results.

