

Health Care and Society  
Concussion in Sport  
By Cerys Jones

### Introduction

Over the last few years, there has been a significant increase in the media coverage of the debate surrounding concussion in sport. Coincidentally, I started to play Rugby union about 3 years ago which has given me first hand exposure to the issues surrounding this topic. Whilst I have enjoyed playing many sports such as badminton, hockey and netball, rugby has been the one sport that has captivated me. In part, my love of the game comes from the tackling element which is the main concern for the medical profession. A number of reports have been published suggesting that tackling be removed from the game (certainly at a junior level). I have played for my local club and was fortunate enough to have been selected to play for the Ospreys under 18s for 2 seasons. At both club and regional levels, I have witnessed a huge emphasis on player safety from the coaches. It is therefore clear that the players and coaches (ie the society) and doctors (ie health care) both want the same outcome - player safety.

### What is concussion?

Concussion is a result of a blow to an individual's head resulting in temporary damage to the brain and is an injury often associated with contact sports such as rugby and American football. Concussion is defined as a form of closed head injury as the brain is damaged without being exposed to air. The blow to the head results in the brain moving forwards and backwards or from side to side, such that it collides with the bony skull surrounding it. This bruises brain tissue, damages axons and tears blood vessels (Novack, 2010).

Rugby and other sports like American football are contact sports where blows to the head region are extremely difficult to avoid due to the nature of the games, therefore concussion isn't a rare occurrence. In a similar way to the unknown effects of smoking in the past, there was once a serious lack of medical knowledge regarding the effects of concussion on an individual's health. In recent years, extensive research has been carried out in order to build a better medical understanding of the effects of concussion on the mental and physical health of individuals. The results from this research have been used to raise awareness of the dangers of concussion.

According to the NHS, the following are signs and symptoms of concussion:

- a constant headache that isn't relieved by painkillers
- dizziness
- feeling sick or vomiting
- feeling stunned, dazed or confused
- memory loss – what happened before and/or after the concussion
- clumsiness or difficulty balancing
- unusual behaviour – irritation and sudden mood swings

- changes in your vision – such as blurred vision, double vision or "seeing stars"
- being knocked out or having difficulty staying awake.

Post- concussion syndrome is when the concussion symptoms last a few months or more and some individuals may suffer from this after being concussed. Possible symptoms include:

- headaches
- dizziness
- problems with memory or concentration
- unsteadiness
- depression, anxiety and changes in behaviour.

The NHS recommend that an individual suffering from post-concussion syndrome for more than three months should see their GP in order to receive advice regarding possible treatments to relieve some symptoms or to be referred to a specialist. (www.nhs.uk, 2017) Though the effects of concussion are temporary and don't cause permanent brain damage, it is crucial that individuals avoid multiple concussions as this is extremely dangerous and can cause further health complications.

Chronic traumatic encephalopathy (CTE) is defined as a type of dementia associated with repeated blows to the head and recurrent episodes of concussion. Symptoms include short-term memory loss, depression, confusion and dysarthria (slurred speech). If the CTE progresses, further symptoms may include significant issues with memory and parkinsonism (www.nhs.uk, 2016).

These symptoms are not minor health implications and affect an individual's mental and physical health. CTE shows that concussion doesn't only cause short-term health implications, but has the potential to cause long-term mental and physical harm too. Currently there is only supportive medication available to treat CTE, therefore there is no definitive cure.

Though it is healthier and more beneficial to avoid concussion completely, in the case that someone has been concussed and is suffering from symptoms, there are ways in which individuals can help themselves to recover. The NHS advises that these individuals should:

- get plenty of rest and avoid stressful situations
- be supervised by someone for the first 48 hours so that changes in their behaviour and confusion will be noticed
- take paracetamol (only paracetamol) if a headache is present
- avoid alcohol
- only start gradually increasing how much activity they do each day when they are feeling better– do as much as they can without their symptoms coming back
- not return to things like work, college, school, driving or riding a bike until they feel recovered
- avoid sports or strenuous exercise for at least a week and avoid contact sports for at least three weeks.

(www.nhs.uk, 2017)

## Healthcare and Society's views

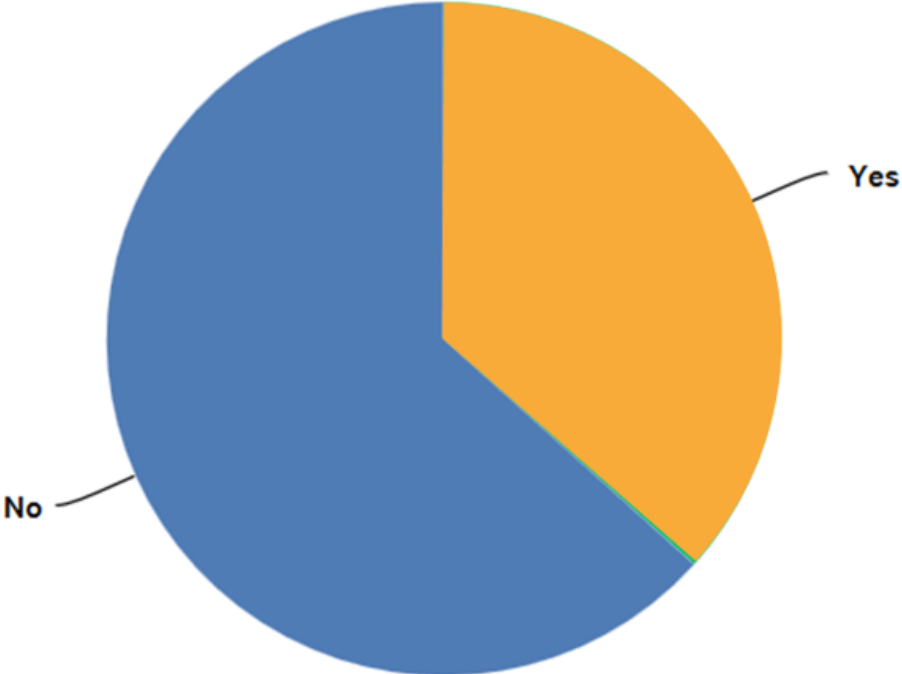
A current debate between medical professionals and contact sport organisations is whether enough is being done to protect children and young adults from concussion. Regarding rugby, the most common proposal from medical professionals is to ban tackling from school rugby as this would decrease the risk of receiving concussion. According to Professor Pollock from Newcastle University, "All the evidence available on rugby injuries shows there is a high risk of injury and that the tackle is where most of these injuries occur... World Rugby and ministers should immediately take a cautionary approach to protect children from avoidable harms by removing the tackle from school rugby."

In keeping with Professor Pollock's statement, Graham Kirkwood of Newcastle University said, "Under the United Nations Convention on the Rights of the Child, governments have a duty to protect children from the risks of injury." ([www.ncl.ac.uk](http://www.ncl.ac.uk), 2017)

With this in mind I gathered some primary evidence on this subject by producing a questionnaire which I shared with people who I knew were directly involved in Rugby Union. Players, family members of players and coaches were all asked for their input. I wanted to limit the people I questioned to this group so that I could gather the views of those who have a personal interest in player safety. All of the results were given and collated using Survey Monkey. Three questions and their results are shown below.

# Have you ever been concussed?

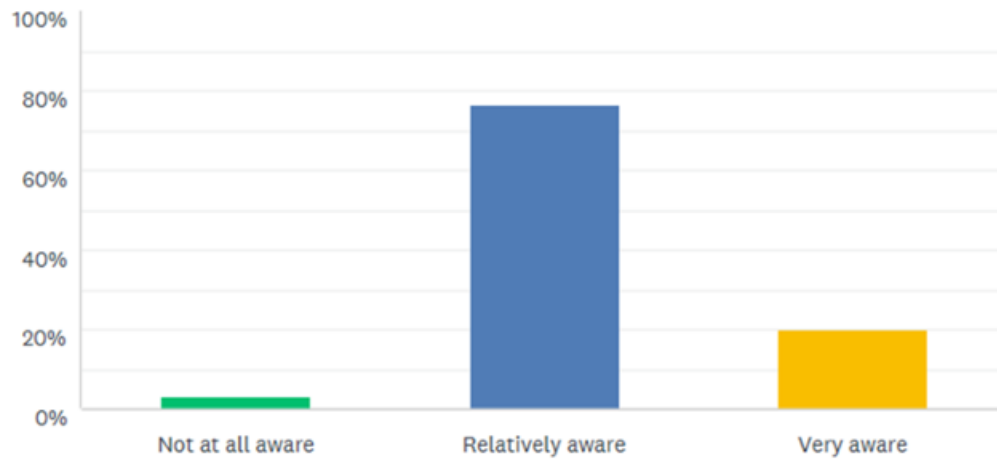
Answered: 30 Skipped: 0



Answer Choices –	Responses –
–	36.67%
Yes	11
–	63.33%
No	19
TOTAL	30

## How aware are you of the effects concussion can have on your health?

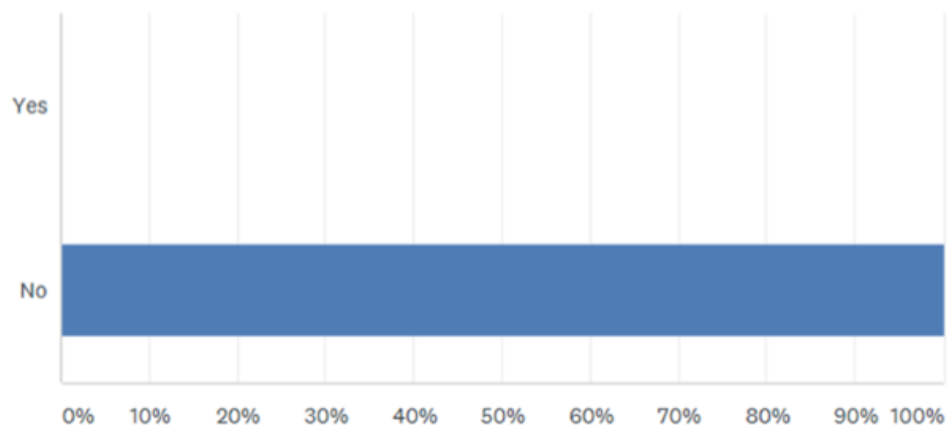
Answered: 30 Skipped: 0



3wdAnswer Choices –	Responses –
– Not at all aware	3.33% 1
– Relatively aware	76.67% 23
– Very aware	20.00% 6
TOTAL	30

## Do you think tackling should be banned in school rugby?

Answered: 30 Skipped: 0



Answer Choices –	Responses –
–	0.00%
Yes	0
–	100.00%
No	30
TOTAL	30

As can be seen, despite the obvious and known risks associated with concussion, there is overwhelming support for keeping the tackling element in rugby. I think that it is safe to assume that the group I questioned care just as much about their own safety and that of their family members as the average person would. As there are no payments made or received by any of the individuals, their desire to keep the physical contact in the game is clearly not motivated by money (as it may be for professional rugby players or fans). There must be a clearly perceived benefit from participating in the game that outweighs the potential risks from concussion. This is not to say that those surveyed do not want the game to be as safe as possible. It is just that they have a different view of how to achieve this. As one person stated

"Young people need to learn skills appropriately and under supervision. They will see it in the adult game and want to emulate it themselves - if they aren't able to do it in the formal setting of a match, it will happen at home when they are playing with friends. Out of the controlled situation this could be much more dangerous as they will not know how to do it 'safely'".

### Conclusion

As you would expect, Medical opinion is very clear that any risk to personal health is unacceptable. This is not to say that all members of the medical profession hate contact sports and want them all to be banned. It is just a simple fact that protection of the individual will always be the primary concern of those who have dedicated their lives to the care and treatment of others. When the “whole person” benefits of participating in a contact sport are added into the mix (physical fitness, mental wellbeing, good diet etc.) then it is clear that there are some medical benefits derived from these activities.

The aim of all of those involved in this subject should be to find a balance between safety and enjoyment. Everything that mankind does carries a certain amount of risk. Even attending a health check in a hospital could involve driving a car, crossing a road, negotiating a slippery surface. Our aim on this journey would be to minimise our risks by ensuring that our vehicles are well serviced, we use pedestrian crossings when possible and so on. The same logic has to be applied to minimising the risk of concussion in contact sports. We need to ensure that all players are trained at an early age to tackle safely. The leaders of the sporting organisations must continue to actively look for acceptable ways to modify their sport to minimise the risks. The medical profession needs to continue their research to enable us to better understand the risks. With the close collaboration of the

NHS and the rugby community we should be able to find an acceptable compromise that will work for the sport and the health of those who play it.

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