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Employers' Liability and Concussive Injury in Professional Rugby Union: The application of Health and Safety Legislation to concussive injury in professional Rugby Union in the UK and Ireland

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'There will be many people, who will applaud his bravery, and of course we must do that; but you have got to think of the longer term implications of the concussion protocols.' (The NPC2012, 2014)

Alastair Eykyn - BT Sport Commentator commenting on the Pitch Side Concussion Assessment following the return of Florian Fritz to play having displayed clear signs of concussion prior to his removal for the purposes of an assessment on the 9th of May 2014.

Introduction

Rugby union players continue to increase in size and strength since the professionalisation of the game in 1995. A 2014 study of 453 South African under 20's players conducted over a 13 year period recorded a significant rise in muscular strength, body mass and muscular endurance of the players. (Lombard, Durandt, Masimla, Green, & Lambert, 2014) As the players have transformed in strength and speed, the game has become more physical with contact increasing in frequency and force. (Fuller, Brooks, Cancea, Hall, & Kemp, 2007)

The most recent English Professional Rugby Injury Surveillance Project Report (RFU, England Professional Rugby Injury Surveillance Project - 2013-14 Season Report, 2015) states that concussion is the most common match related injury with an incidence of 10.5 concussions per 1000 player hours in the 2013-14 season – a three fold increase in the rate of concussion since 2004. (RFU, 2014) The cumulative effect of an increase in size, physicality, force and number of games played has resulted in a rise in the risk of concussion and repetitive concussion in professional rugby players.

A growing body of medical studies suggest that repetitive head impacts – resulting in both concussive and sub-concussive blows - can lead to dementia and other long-term neurodegenerative diseases. In these circumstances, there is arguably a greater onus on professional rugby clubs, as employers, to comply with their statutory obligation to ensure they do not expose their employees to unsafe systems of work.

This article explores the statutory obligations on clubs and unions (clubs) , to carry out appropriate risk assessments in their work systems; the exposure to liability as a result of a failure to fulfil those obligations; the risks present in the work systems of professional rugby and the preventative measures they can take to make their work systems compliant with health and safety legislation.

The Problem: Long-term Effects of Concussive Injuries

Sports related concussion, in one study of elite soccer players over eleven months, was found to increase the risk of subsequent injury by 50 per cent. (Nordstrom, Nordstrom, & Ekstrand, 2014) Medical Studies in the United States have linked repetitive brain injury with long-term disorders such as anxiety and depression (Didehbani, Cullum, & Sethesh Mansighani, 2013), early on-set dementia and chronic traumatic encephalopathy (CTE) (Gavett, Stern, & McKee, 2011) .

CTE is a degenerative brain disease that has only been found in the brains of individuals with a history of repetitive brain trauma (Stern, Riley, Daneshvar, Nowinski, Cantu, & McKee, 2011) and is currently only diagnosable by autopsy. The average age of onset of CTE is 42.8 years, (Gavett, Stern, & McKee, 2011) thus, the effects of concussive blows may not become apparent until after the athlete has retired from sport.

The earliest study linking contact sports, such as boxing to 'punch-drunk syndrome' was published in 1928 (Martland, 1928) and the first study linking repeated brain injury and CTE in NFL players was published in 2005. (Omalu, DeKosky, Minster, Kamboh, Hamilton, & Wecht, 2005) In 2005 the Industrial Injuries Advisory Council on behalf of the UK government, had sufficient cause to carry out a review of head injury in footballers, boxers and jockeys and the existence of a link between head injury and dementia. (Industrial Disease Advisory Council, 2005) Dr. Simon Kemp, medical advisor to the Rugby Football Union (RFU) was one of four experts consulted in the course of this review.

In January 2007 the New York Times published a front page article linking former NFL footballer Andre Watson's suicide, to brain injuries sustained in the course of his career. (Schwartz, 2007) On the 28th of October 2009 the National Football (American) League (NFL) commissioner, Roger Goodell, gave evidence before the House of Representatives Judiciary Committee investigating brain injury in American football. He refused to confirm a link between playing Football and brain injury such as dementia and CTE, despite pressure from the committee members. (ESPN, 2013) However, in December 2009, the NFL's lead spokesman stated in the media that it was 'obvious from the medical research that's been done that concussions can lead to long-term problems.' (Schwartz, 2009) This was the first public admission by the NFL of such a link.

In August 2011 seven former NFL players brought class action litigation against the NFL in respect of damage caused by long-term brain injury, sustained in the course of their careers. (Easterling et al v National Football League, Inc) At the time of writing there are over 5,000 plaintiffs in the consolidated class action against the NFL. (In re: National Football League Players' Concussion Injury Litigation) The plaintiffs' case is that the NFL was aware, or ought to have been aware, of the link between football related head trauma and degenerative brain conditions and failed to act appropriately or inform the players of the risk. (In re: National Football League Players' Concussion Injury Litigation)

In January 2014 in the United States District Court for the Eastern District of Pennsylvania, Judge Anita Brody refused to approve an NFL proposed settlement - capped at \$675m - on the basis that she was not satisfied that the ex-players would receive adequate compensation. (Breslow, 2014) In June 2014 the NFL agreed to remove the cap. Subsequently, Judge Brody granted preliminary approval in July 2014. The settlement further provides that the NFL parties must pay all legitimate claims for the next 65 years. (In re: National Football League Players' Concussion Injury Litigation) The matter is still ongoing at the time of writing. In Missouri, 31st December 2013, nine plaintiffs issued proceedings against the Arizona Cardinals Football Club LLC. (Roy Green et al v Arizona Cardinals Football Club LLC) The plaintiffs allege that, in addition to negligence, fraudulent concealment and negligent misrepresentation, the team - as their employer - owed them a duty of care including: 'a duty to maintain a safe working environment, not to expose the employees to unreasonable risks of harm, and to warn employees about the existence of concealed dangers.' (Roy Green et al v Arizona Cardinals Football Club LLC) As a result of the breach of duty the plaintiffs have suffered long-term damage to their health. The defendant attempted to stay proceedings in

an effort to join the action with the NFL concussion litigation, but that application was refused. (*Roy Green et al v Arizona Cardinals Football Club LLC*)

The first diagnosis of CTE in a rugby player was confirmed in February 2014 in a former 11 Australian club rugby player, Barry Taylor. Taylor's family donated his brain to the Brain Bank of Boston University and the VA Boston Healthcare System, researchers involved in the diagnoses of CTE in NFL and soccer players. (Manly Daily, 2014) The first diagnosis of CTE in a rugby player in the UK and Ireland was confirmed in May 2014 when the Dublin City Coroner, Dr. Brian Farrell, found that Lansdowne FC amateur player Kenny Nuzum died as a result of CTE. (Fanning, 2014) Nuzum died at the age of 57, having played rugby into his 50s and displayed signs of neurological deterioration in the six to seven years prior to his death.

Dr. Willie Stewart, Consultant Neuropathologist at the Southern General Hospital in Glasgow, 12 stated at the time of Nuzum's diagnosis that sports continue to ignore the issue of repetitive brain injury 'rather than just accepting that the good work in America carried out over the past decade has told us what we need to know: repeatedly injuring your brain over and over again is not good for some people.' (Fanning, 2014) The diagnoses of CTE in Barry Taylor and Kenny Nuzum could signal the beginning of a significant issue in rugby union, similar to the chain of events triggered by the findings of CTE in the brain of Andre Waters, former American Footballer in 2007. (Schwartz, 2007)

Application of Health and Safety Legislation in Professional Rugby

Rugby clubs in the UK and Ireland, have a responsibility, as far as is reasonably practicable, 13 to ensure the health and safety of their players. This section examines the application of health and safety legislation to, and the potential liability of, professional rugby clubs for failure to discharge their statutory duty of care.

Health and safety legislation in the UK and Ireland is similar in expression and effect. The 14 relevant legislation in the UK is the Health and Safety at Work Act etc 1974 ('the 1974 Act') and the Management of Health and Safety at Work Regulations 1999 ('the 1999 Regulations') . In Ireland the Safety, Health and Welfare at Work Act, 2005 set out the standard for workplaces.

This legislation sets out the duty of employers to ensure - so far as is reasonably practicable - 15 that their work systems protect the health, safety and welfare of all their employees.¹ It also obliges employers to conduct their undertaking in a manner that does not expose their employees to risks to their health and safety.² The extent of an employer's duty to protect its employees was addressed by the Court of Appeal in *Regina v Patchett Engineering* [2000] 22 May LEXIS, as per Justice Jowitt at paragraph 17: 'the statutory duty has, as one of its objects, the protection of workers who may be neglectful of their own safety in a way which should be anticipated.'

In health and safety prosecutions the onus of proof lies on an employer to prove they took 16 reasonably practicable steps to mitigate any risk to their employees' health and safety³ - once it has been established that a real risk existed.⁴ The defence of *volenti non fit injuria* - the voluntary assumption of risk - does not apply in actions regarding an employer's breach of statutory duty.⁵ Should the employer state that an employee should have been aware of the risk then, concomitantly, the employer should have been aware of the risk and taken steps to eliminate it. The courts favour a strict liability approach to the failure of employers to discharge statutory duties, with the exception of the defence of reasonable practicability.

In *R v Davies* [2002] All ER (D) 275, the Court of Appeal held that failure to conduct an 17 undertaking in such a manner imposes absolute criminal liability on an employer, subject to reasonably practicable measures to avoid such risks. The case concerned an appeal of a conviction for an offence relating to failure to discharge the duty not to expose their employees to risks to their health and safety. In the matter a truck reversed into an employee resulting in death. The Court found that injury caused by a reversing vehicle was a known risk within the industry and could have been prevented by establishing simple safety

precautions. Upholding the conviction, Lord Justice Tuckey stated at paragraph 25:

'The reversal of the burden of proof takes into account the fact that duty holders are persons who have chosen to engage in work or commercial activity (probably for gain) and are in charge of it... in choosing to operate in a regulated sphere of activity they must be taken to have accepted the regulatory controls that go with it. This regulatory regime imposes a continuing duty to ensure a state of affairs, a safety standard. Where the enforcing authority can show that this has not been achieved it is not unjustifiable or unfair to ask the duty holder who has either created or is in control of the risk to show that it was not reasonably practicable for him to have done more than he did to prevent or avoid it.'

Therefore, once an employer is aware of a risk they should take reasonably practicable 18
preventative measures to eliminate the risk to their employees. Failure to prove the taking of
such measures could result in conviction.

Obligation to Carry Out a Risk Assessment

The 1999 Regulations in the UK, and the 2005 Act in Ireland, set out the obligations on 19
employers to carry out suitable and sufficient risk assessments, identifying any risk to the
health and safety of employees in their work systems.⁶ The legislation specifies the minimum
action to be taken, in the event that risks are identified. The findings of the risk assessment
must be recorded⁷.

Employers must evaluate the risks that cannot be avoided, combat the risks at source and 20
adapt to technical progress.⁸ Employers must review any risk assessments if there 'is reason
to suspect it is no longer valid or... there has been significant change in the matter to which it
relates.'⁹ Given the emerging evidence in the US on the potentially serious effects of
repetitive concussion, it is reasonable to assume that a risk assessment would require
significant detail in respect of the risks posed by concussion to players, both short-term and
long-term. Employers have an on-going obligation to provide appropriate health surveillance
on the basis of the risks identified in the statement.¹⁰ If a particular employee is susceptible
to a particular injury, such as concussion, the surveillance should be adapted to take that
individual factor into account.

In *Allison v London Underground* [2008] IRLR 440 the Court of Appeal highlighted the vital 21
role of suitable and sufficient risk assessments in ensuring an employer is aware of the risks
within their work systems. The Court held that an employer failed to carry out a sufficient risk
assessment of a handle used to drive a tube train; and, if the employers had conducted a risk
assessment, they would have identified the need to train their employees to minimise the risk
of injury:

'What the employer ought to have known will be what he would have known if he had carried out a suitable and sufficient risk assessment... Risk assessments are meant to be an exercise by which the employer examines and evaluates all the risks entailed in his operations and takes steps to remove or minimise those risks. They should be a blueprint for action.' (*Lady Justice Smith at para. 57 & 58*)

It can be extrapolated from this statement of principle that clubs, as employers aware of the 22
risk of concussion to their employees, ought to have carried out a risk assessment on that
risk; and used that assessment as a blueprint for action to mitigate the risk. If a club has not
done so, then this duty has not been sufficiently discharged.

Duty to take Preventative Measures

The Court of Appeal in *Allison* held that the employers ought to have adequately trained their 23
employees to mitigate the risk of injury. Consequently, once clubs carry out a risk
assessment, they are statutorily obliged to provide their employees with relevant information
on the risks to their health identified, and the preventative and protective measures they will
take to minimise them. This information must be presented to the employees in a coherent
manner and should take account of their level of knowledge and experience. ¹¹ Any training
or education on risks should be reviewed and adapted to take into account any new or
changed risks.¹² Accordingly, any club that has not adequately educated their players on the
risks of concussion, both long and short term, is arguably in breach of this duty.

The general principles of prevention,¹³ contained in the legislation, provide a framework for 24

preventative measures to minimise the risks identified. The principles include: combating the risks at source; adapting the work to the individual in the selection of work methods, with a view to working at a predetermined work rate; and reducing their effect on health.¹⁴ Consequently, the focus is on the practicability of the preventative measures employers ought to take to mitigate or eliminate risk they identified or should have been identified in the course of a risk assessment.

Major League Baseball (MLB) is an example of a professional sport that has acknowledged the risks inherent in its work systems and adapted their systems to protect their players. The MLB clubs compile statistics (MLB.com) on the amount of pitches each player pitches in any given game. Prior to 2001, games of 120 and over pitches were far more common. Now it is unusual for a pitcher to pitch more than 100 times in one game, before they are withdrawn and replaced by a reliever. By compiling relevant information, identifying risks and taking preventative measures, teams have acknowledged the need to protect the health of the pitchers rather than over extend them and risk burnout. (Kurkjian, 2009) MLB teams have expanded the number of pitchers on their rosters as a result. 25

Liability

The statutory duties outlined above set out the standard of care expected of employers in the UK and Ireland. Failure to comply with those duties, resulting in injury, is a criminal offence and a breach of the duty of care giving rise to an action in negligence in civil liability 26

It is a criminal offence for an employer to fail to discharge its duties pursuant to the 1974 Act ¹⁵, 1999 Regulations¹⁶ and the 2005 Act. ¹⁷ It is an offence for a person or body corporate to fail to discharge the duty to protect employees from risks to their health and safety.¹⁸ If it can be shown that the acts that led to the offence were carried out with the consent - or could be a result of neglect - on the part of any director, manager or a person who was acting in such capacity, they are liable to be prosecuted and convicted. ¹⁹ 27

In Ireland, directors of an undertaking, which encompasses not for profit organisations²⁰ such as the Irish Rugby Football Union (IRFU) , are subject to the provisions of the 2005 Act. The clubs in the Aviva Premiership, Wales and Glasgow Warriors in Scotland are 'bodies corporate' pursuant to the 1974 Act. Therefore, directors of the clubs in the UK and Ireland could be criminally liable for long-term rugby related brain injury- if it can be shown they were aware or should have been aware of the risks but failed to take action to mitigate those risks. To avoid prosecution, the club or director must demonstrate that they took all reasonably practicable steps to mitigate reasonably foreseeable risks to players' health and safety. Edinburgh Rugby club is registered as a society; consequently, the liability of the club and its members would be dependent on its constitution. 28

In terms of civil liability, in Ireland the 2005 Act does not specifically preclude a civil right of action in respect of a breach of statutory duty. In the UK the 1999 Regulations and 1974 Act exclude a right to civil action. However, the Management of Health and Safety at Work Regulations 1992, revoked by the 1999 Regulations, did not exclude civil litigation and therefore, apply to the period of time between September 1995 and the 29th of December 1999²¹. As a result, only injuries sustained in the UK in that period of time will be actionable in the civil courts as a breach of statutory duty. 29

Although the 1974 Act and the 1999 Regulations do not confer a right to civil action as a result of a breach of statutory duty, it does not preclude the breach being pleaded as a fact, or evidence of, a breach of the common law duty of care in any negligence proceedings. In *Spencer v Boots The Chemist Ltd* [2002] EWCA Civ 1691 the Court of Appeal ruled that a failure to undertake a risk assessment did not equate to, but was evidence of, a breach of the common law duty of care. Therefore, although not providing a foundation for an action on its own, it could possibly be used as part of an action in negligence. 30

Applying case law to the legislation, professional rugby clubs - as persons engaged in commercial activity (as per *Davies*) - are statutorily obliged to assess their systems of work to ensure they are not exposing their employees to avoidable risks. Once the risks are identified they are obliged to take steps to minimise any risks identified, inform their 31

employees of the risks identified and educate them on the measures being taken to minimise such risks. If they do not do so, they are potentially exposing the clubs, unions, and their directors to criminal liability in respect of any long-term damage suffered by a player as a result of concussive injury.

Risks present in the work systems of rugby union

This section will address the apparent risks concerning the health and safety of players, from a concussive injury perspective, present in professional rugby work systems in the UK and Ireland. The Zurich definition of concussion states: 'Concussion is a brain injury and is defined as a complex pathophysiological process affecting the brain, induced by biomechanical forces...Concussion typically results in the rapid onset of short lived impairment of neurological function that resolves spontaneously. However in some cases, symptoms and signs may evolve over a number of minutes to hours'. (McCrary, Meeuwisse, & al, 2013) 32

On the basis of this definition, concussion is a complex brain injury that can take hours to manifest in the form of symptoms. The seriousness of such an injury is such that the appropriate management of such a complex and dangerous injury ought to be of paramount importance to employers of employees who are exposed to the risk of concussive injury. 33

In the current work systems of professional rugby, players are arguably exposed to a number of on field concussion risks - primarily the introduction of the Pitch Side Concussion Assessment (PSCA) , now known as the Head Injury Assessment (HIA) (RPA, 2014) . 34

Pitch Side Concussion Assessment/ Head Injury Assessment

Prior to 2010 a concussed player was required to leave the field of play and sit out training and/or matches for a mandatory three week period - subsequently reduced to 7 days with medical clearance - following a diagnosed concussion. In 2012, one year after the institution of the NFL concussion litigation, the International Rugby Board (IRB) - now known as World Rugby - established the Pitch Side Concussion Assessment (PSCA) 35

The PSCA - now known as the Head Injury Assessment (HIA) - requires a medic to make a decision, in a ten-minute period, whether a player is concussed or fit to return to the field of play. (IRB, 2014) Prior to June 2014, the assessment was completed in five minutes. The assessment is comprised of four parts: Maddocks' questions,²² a tandem balance test, a symptom assessment and a brief assessment evaluation of mental status. (Fuller & Kemp, 2014) If a medic suspects a concussion, they must remove the player from the field of play and use clinical judgment or the HIA as a diagnostic tool. The IRB's policy documents on concussion entitled 'Concussion Guidance for the General Public' (IRB) applicable to the general rugby population stipulate that if there is a suspicion of concussion, the player should be immediately removed from the field of play, not to return for the remainder of the game. The HIA is currently utilised only in selected elite rugby competitions. 36

Prior to the development of the PSCA/HIA no validated diagnostic test existed for an immediate conclusive diagnosis of concussion, due to the complexity of the injury. This fact is repeated in the IRB study of the PSCA as a basis for the development of the assessment. (Fuller & Kemp, 2014, p. 1) On the basis of those facts, the HIA appears to be a medical trial and the professional players are participants in that trial. 37

Dr. Barry O'Driscoll, a member of the IRB Medical Committee in 2012, resigned from his position in protest at the implementation of the PSCA on the basis that the trial did not prioritise player welfare. (O'Driscoll, 2014) Speaking in 2012 in the documentary *Head Games*, Dr. O'Driscoll summarised the IRB policy change as: 'Everyone else has gotten more careful about concussion. We have gone from three weeks to five minutes over the course of three years.' (James, 2012) In contrast, the IRB's Chief Medical Officer Martin Rafferty in an official IRB media release announcing the introduction of the PSCA stated: 'The five minute window is ample time and will deter tactical manipulation and will not impact on the shape and character of the game.' (IRB, 2012) The intention to deter tactical manipulation was 38

repeated in the IRB-sponsored study on the PSCA. (Fuller & Kemp, 2014, p. 1)

In August 2012 the IRB expanded the PSCA trial to encompass elite competitions. (IRB, 39 2012) Premiership Rugby chose to 'volunteer' its participants to take part in the PSCA trial to facilitate better diagnostic conditions, in which medics could make 'player centred decisions'. (Guardian, 2012) It is unclear what information was provided to the players regarding the apparent risks of the trial, at the time the assessment was introduced. In 2013, Aviva Premiership players were provided with a document titled 'A Prospective Investigation of Outcomes Following Concussive Injury in Elite Rugby Union.' (RFU and Bath University, 2013) The document is a 'Player Information Sheet' on a study involving the PSCA trial and provides a player consent form on the final page. In the FAQ section of the information sheet are the words: 'Are there any risks from taking part? There are no risks from taking part over and above your normal rugby activities.' (RFU and Bath University, 2013) It is arguable whether 'normal rugby related activities' constitutes a sufficient description of the risks of participating in a trial created to address a diagnostic lacuna.

This consent form and information sheet were handed out to players following a high profile 40 failing of the PSCA on the British and Irish Lions tour of Australia. In the course of the incident, Australian player George Smith was knocked unconscious and required assistance from two medics to leave the field. Smith subsequently completed the PSCA and returned to the field. In the aftermath of the Smith incident Bob Cantu, co-director of the Boston University School of Medicine's Center for the Study of Traumatic Encephalopathy, leading neurosurgeon and Zurich author, stated that the trial was 'fundamentally flawed... By not taking players out of the game, rugby is denying them access to proper medical care. You need to take them off the field at the first signs of suspected concussion and not put them back. It is that simple.' (Peters S. , 2013)

The NFL has been dealing with the fallout of their avoidance of the impact of repetitive 41 concussive injury since 2009. The NFL implemented a sideline assessment tool concussion management protocol in 2011. The introduction of concussion management protocols has led to sea change in the attitudes of franchises towards concussion - and has led to greater numbers of players self reporting concussion. (Pennington, 2014)

The concussion management protocol - similar to the PSCA - is not without its faults. In 42 November 2014 Cincinnati Bengals Cornerback Adam Jones passed two separate in game concussion checks following a collision in the second quarter of a game. The Bengals team doctor performed the first assessment. The second was by an NFL mandated independent specialist. Following the game, Jones informed team trainers that he believed he had a head injury and was subsequently placed on the injured list under concussion protocol. (Harvey, 2014)

Players passing sideline tests, and subsequently presenting with concussive symptoms not 43 confined to NFL. In November 2014, Irish scrum half Conor Murray received a blow to the head and was removed from the field for the purposes of a HIA. Murray passed the initial HIA and returned within four minutes and 31 seconds. (McCarry, 2014) . Murray was subsequently monitored by the IRFU medical staff and passed a second HIA the following day, but displayed concussion like symptoms when assessed using a HIA tool two days later.

Given the short time frame in which the assessment diagnoses a complex brain injury, the 44 implementation of the PSCA into the work systems of professional rugby in the UK and Ireland was a situation in which clubs ought to have carried out a risk assessment to assess the risks posed to players by the trial. It is not clear whether such a risk assessment was carried out or whether the players were informed that their participation in the trial potentially exposed them to risks of exacerbated brain injury, both short term and long-term.

Risk of Occupational Bias in the Implementation of the PSCA/HIA

Conflicts of interest involving coaches or medics pose possible risks to the health and safety 45 of players in professional rugby. The relationship between players and their coach is an intense mutually dependent relationship (Léveque, 1992) that can influence how a player reacts in certain situations. If a coach has a flippant attitude to concussive injury, it is more

likely that a player will adopt the same position due to the influence exerted, consciously and subconsciously, by the coach over his players.

The Irish Rugby Union Players' Association conducted a survey in 2010 and found that 40.4% of professional Irish rugby players 'felt pressurised to play whilst injured'. (Thornley, 2011) 46
19.1% of the players had been pressurised to stay on the field despite suffering from a concussion. The study found that coaches mostly exerted the pressure, but 27.8% of players found that the pressure came from medical staff. (Thornley, 2011)

Studies on the management of concussion by occupational physicians in the NFL found that 47
conflicts of interest can lead to cognitive bias towards the employer – both consciously and sub-consciously - particularly in cases of clinical uncertainty. (Goldberg, 2008, p. 345) As a result, is more likely that an independent medic, with no ties to the club involved, would prioritise clinical judgment in cases of suspected concussion.

In rugby - similar to the NFL practice at the time of Goldberg's article - the HIA is carried out 48
by a team medic employed by the same club as the player they assess. In such a scenario there can be 'tremendously powerful social and economic forces arrayed to create the states of mind that may lead to behavior of partiality in the aggregate.' (p. 344)

On the 9th of May 2014, Toulouse's Florian Fritz collided with the knee of an opposing player 49
in a French Top 14 play off game. The Top 14 competition was a participant in the PSCA trial at that time. (Cross, Stokes, Kemp, & Smith, 2013) Following the collision, Fritz displayed clear symptoms of concussion including: confusion and loss of balance - requiring the support of others to leave the field of play.

Video footage following the incident (The NPC2012, 2014) shows Guy Noves, the Toulouse 50
coach, speaking into a room containing Fritz. Noves waits until Fritz appears to leave the room and walks ahead of him, returning to the sideline. Fritz is then shown waiting on the sideline to be re-admitted to the field of play by the officials - neither Noves nor the medical staff, nor the any officials prevent Fritz from retaking the field. Fritz continued to play until half time having displayed clear signs of concussion – potentially exposed to the risk of exacerbated brain injury and, in extreme circumstances, death. (Saunders & Harbaugh, 1984)

The IRB PSCA 2013 official guidelines to medical staff state that the sole responsibility for 51
decision to return to play rests with the doctor and 'that clinical suspicion should always overrule a negative supportive tool result' (IRB, 2013, p. 1) yet, in this extreme televised example, a player who had displayed clear signs of concussion was allowed to retake the field.

In September 2014, the Ligue Nationale de Rugby (LNR) announced that the investigation 52
into the incident would not result in sanction against Toulouse or Guy Noves. Paul Goze, the LNR president stated that despite the finding that the protocol was not adhered to, there would be no punishment as 'there were other incidents in the season, so there's no reason to punish a club because it happened under a bigger spotlight than another.' (Planet Rugby, 2014) It was anticipated that no punishment would follow, as the league rules do not provide sanction for such a breach. (Planet Rugby, 2014) The surprising aspect of the ruling was the rationale provided for the lack of sanction. The fact that the Fritz incident occurred under a greater media spotlight than the other incidents was chosen as a reason not impose a sanction, rather than viewed as an opportunity to highlight the necessity of adherence to the concussion protocol as player welfare measure.

In the aftermath of the Fritz incident the president of the Fédération Française de Rugby's 53
medical commission, Jean-Claude Peyrin, noted that despite training doctors were not applying the protocol as required. (Planet Rugby, 2014) By way of sanction, if any club fails in its duty to adhere to the concussion protocols, an independent doctor will be provided by the FFR to all of their fixtures in the second half of the 2014/2015 season. The offending club will be required to cover the expenses of the independent doctor.

The Capacity of a Concussed Player to Make a Decision

The role a player with concussion has to play in their removal is a complex one. Concussed 54
players are under the control of the medical staff and the coach/manager – whether
consciously or subconsciously. The Mental Capacity Act 2005 states: 'a person lacks capacity
in relation to a matter if at the material time he is unable to make a decision for himself in
relation to the matter because of an impairment of, or a disturbance in the functioning of, the
mind or brain...It does not matter whether the impairment or disturbance is permanent or
temporary.'²³

The Mental Capacity Act 2005 Code of Practice specifies concussion as an impairment or 55
disturbance in the functioning of the mind or brain.²⁴ It is stipulated that an assessment of
capacity must be founded on the person's ability to make a decision at the time it is required,
not their ability to make decisions in general.²⁵

It is arguable from the statutory definition that a player suffering from the effects of a 56
concussion does not possess the legal capacity to make a decision on their welfare.
Consequently, players are particularly vulnerable to any weakness in their work systems, and
those who control that system.

Limitations of the PSCA Study and Trial

An IRB study on the accuracy of its PSCA was published in July 2014. The study covered the 57
period July 2012 - October 2013, when the PSCA was completed in a five-minute time frame.
The study found a 'potentially favourable balance between positive and negative predictive
values', which it stated 'offered a strong basis to design and conduct a further larger trial.'
(Fuller & Kemp, 2014, p. 6) The study arrived at this conclusion despite the lengthy
limitations of the process listed prior to the conclusion including: not all players eligible for
the PSCA process were identified; issues surrounding unobtainable consent; the reference
standard was not standardised resulting in the risk of differential verification bias -'final
diagnosis of concussion was based on clinical judgement'; independence of those
administering the process (team doctors performed 70.9% of PSCA tests) and due to the
anonymised nature of the data collection it was not possible to verify the information and
outcomes. (p. 6)

Dr. Simon Kemp is one of three authors of the study. Kemp, Chief Medical Officer of the RFU, 58
was one of the IRB Concussion Policy Panel Members responsible for the establishment of the
PSCA in 2012. The recommendations set out by Daniel Goldberg in his study include an
independent ethical review committee and longitudinal studies designed to augment the
knowledge and science of concussion that do not fall foul of the 'same conflicts of interest
that generally influence NFL policy as to mTBI (mild traumatic brain injury) .' (Goldberg,
2008, p. 350) Applying Goldberg's determinations on the influence of conflicts of interest, it is
arguable that Dr. Kemp's involvement in the creation of the PSCA could impact on his ability
to assess objectively the impact of the PSCA.

Dr. Willie Stewart highlights that the limitations of the study do not address the lack of 59
comparison to the previous practice of suspicion of concussion resulting in the removal of the
player. If the study had done so, it would have indicated that increased vigilance and removal
of those with suspected concussion was the ultimate aim of the assessment, not a means of
facilitating return to the field. (Stewart, 2014) It is arguable that a set of circumstances that
require the use of the PSCA are sufficient in their own right to diagnose a concussion, thus,
any return to the field by a player is a failure of the system as a diagnostic tool.

The study did not require independent video review of the matches subject to the study. 60
Therefore, there is no guarantee of the accuracy of the data contained within the study. The
authors highlighted this issue when they stated that it was not possible to measure the
number of head impacts that were not deemed to necessitate a PSCA that may have resulted
in concussive injury.

Most importantly, the study did not address the greatest weakness of the PSCA - the 61
shortsighted nature of the assessment. The short sightedness is two fold. Firstly, the five -

now ten - minute process is an assessment of a complex injury that can take up to 48 hours to manifest in the form of symptoms. Secondly, the PSCA trial - and resulting study - is solely focused on the short-term results of the PSCA assessment, without consideration of the long-term risks of relying on a trial diagnostic tool.

Using the ten-minute assessment, a player who is concussed - but has not shown sufficient 62 symptoms in the ten minutes of the HIA to result in a positive finding - and receives a normal result is allowed to return to the field of play. The danger of returning the player to the field, potentially in the mistaken belief that they are uninjured, could expose the player to a significantly greater risk of injury.

In 2001 a study (Echemendia, Putukian, Mackin, Julian, & Shoss, 2001) compared college 63 athletes who sustained sports related mild traumatic brain injuries and control subjects using baseline cognitive testing and Neuropsychological test batteries at two hours post injury, 48 hours post injury and a week post injury. The results yielded differences between the two groups at both two hours and 48 hours. The greatest difference between the two groups occurred at the 48 hours mark. (p. 26) Arguably, this suggests that concussion is an injury that develops, deteriorating over time. The study states: "Although tests administered within minutes or hours of injury are useful, they may not be enough. It is quite possible that an athlete would score within the expected range at 2 hours but show a significant deterioration at 24 or 48 hours post injury." (p. 29)

The PSCA/HIA documentation does not appear to take into account the possibility of long- 64 term damage caused by returning players with injured brains to the field - exposing players to the risk of exacerbating a pre-existing brain injury. Taking the experience in the NFL into account, any long-term damage is unlikely to manifest itself until the player has retired, with the average age of the onset of CTE symptoms at 42.8. The PSCA/HIA has been in place for two and a half seasons, at the time of writing. The potential negative impact of erroneous negative findings of concussion due to delayed onset of symptoms is a significant risk to the long-term health of players currently subjected to the assessment.

If a sufficient risk assessment had been carried out on the introduction of the PSCA, it is likely 65 it would have highlighted the risks associated with the dangers of misdiagnosis of a complex injury in an inadequate period of time. Having identified the risk, clubs would then be obliged to take preventative measures to protect their employees from such risks and fully inform the players on the risks of their 'rugby related activities.' It would appear from the implementation of the PSCA in practice, that this did not happen. As a result, players are potentially exposed to the risk of exacerbated injury each time they are returned following a negative finding using the assessment. It is at least arguable, that as a result of the apparent failure to mitigate the risks posed by the PSCA/HIA to their players, the clubs could be found liable for any injury incurred as a result.

The risks presented by pitch side concussion assessments were addressed in an Irish 66 Governmental Committee Report. Medical experts, Government department representatives and key sporting organisations gave presentations to an Oireachtas Joint Committee on Health and Children relating to concussion in sport. The Government press release on its *Report on Concussion in Sport*, (December 2014) , states that the Irish Government needs to develop a strategy to address the risks presented by concussion in sport. (2014) The Report specifically refers to elite rugby and the risks to player safety as a result of the gradual increase in the size of the participants, together with the number and intensity of collisions. (p. 19) The Report recognised a need for a more consistent approach to concussion management across sporting codes and endorsed the recommendations of the Zurich 2012 guidelines on concussion recommending: "As a general principle, it is essential that any players experiencing or displaying symptoms of concussion are immediately removed from play, regardless of pitch-side assessment, and that they follow a graduated return to play protocol." (p. 11) In this report, the Irish Government has conclusively addressed the need for comprehensive management of concussive injury in sport.

Reasonably Practicable Preventative Measures

The RFU, the Rugby Players Association (RPA) and Premiership Rugby in England introduced 67 preventative measures relating to concussion in October 2014. As part of the new guidelines,

professional players, coaches and referees must complete a mandatory online education module on concussion. The Pro 12 has not, at the time of writing, implemented any such mandatory education module. The module includes the information that players 'may be at increased risk of developing neurodegenerative problems'. (Peters S. , 2014) In December the RFU announced 100% compliance with the mandatory education module. (Premiership Rugby, 2014) It is unclear whether the information included would be considered sufficient in terms of the statutory duty to inform employees of risks to their health,²⁶ but it is a step in the right direction.

The measures also include the independent revision of head impacts in the days following the games and will be linked to the RFU disciplinary process. (RPA, 2014) This measure is a positive indication of a RFU intention to enforce concussion management protocols, but regulations and protocols are meaningless without effective enforcement. The measures taken are of assistance, but the risks of the PSCA assessment and the potential occupational bias of those that implement it have not been adequately addressed. The obligation, from an employers' liability perspective, is on the club to ensure they address any such risks. 68

There are a number of reasonably practicable preventative measures that clubs could take to ensure compliance with their statutory duty. Firstly, all clubs should carry out a suitable and sufficient risk assessment of their concussion management and education systems. Clubs, if taking a conservative approach to concussion management, should, if there is a suspicion of concussion in a player in the course of a game or training, remove the player immediately from the field of play and place them under the graduated return to play protocols. 69

The provision of video footage such as live feeds and replays of head impacts could assist medics in the detection of head impacts and facilitate monitoring of the player for signs of concussion that could be missed when viewed from the touchline. If medics notice such an incident, the player should be removed and not allowed to return. The IRFU, in the 2014-15 season, introduced pitch side instant replays for their medics. 70

The risk of potential occupational bias by coaches or medics in the decision to remove a player from the field of play could be eliminated by the appointment of independent specialist doctors. The clubs, within their leagues, could come to an agreement to each contribute towards the expense of such a facility; and request approval for such a measure from their league or governing body. 71

There should be mandatory comprehensive education of the all club employees of the risks posed by concussive injury, both short-term and long-term, and general concussion management. The mandatory education should extend to club executives to guarantee awareness of their accountability and obligation, pursuant to statute, to ensure a safe work environment for the players under their control. This would ensure compliance with their statutory duty to inform their employees of any risks to their health and safety and also ensure fully informed consent of the players. The clubs, with the assistance of education could foster an atmosphere of acceptance of concussion as a serious injury and encourage self-reporting of concussive injuries. Coaches and managers are vital in fostering such an environment given their relationship with the players and their role in selecting the team. Clubs could also engage and contribute to independent research on concussive management and injury. 72

As it appears clubs cannot rely on the defence of *volenti* in respect of a breach of health and safety legislation; they should eliminate, in so far as practicable, the potential for manipulation by players of their baseline concussion tests. It is widely known in the rugby community that players cheat in the baseline concussion tests set at the beginning of each season as a result of current and former players speaking on the issue. (Peters S. , 2014) In circumstances where, pursuant to *Patchett*, clubs cannot successfully plead that such behaviour amounts to contributory negligence on the part of the players - as the clubs are aware of the risk presented by such behaviour - they should take steps to limit the effect of that behaviour. 73

To ensure compliance with their statutory obligation to provide health surveillance, clubs could carry out risk assessments on the health of each professional player - particularly taking into account any history of concussion. The players should be fully informed of the results of 74

any such assessment and provided with advice on the management of any risk identified. The club should retain players' health records for a period of at least six years following the player's exit from the club. Ideally, players would be provided with their complete medical records upon retirement or transfer from their club.

Clubs could collate the number of collisions and head impacts sustained by each player in the course of games and training - similar to the pitch count in MLB. This could be extended to cover the number of collisions resulting in suspected concussive injury. In line with the pitch count policy of MLB clubs, rugby clubs could rest players if they have been involved in a specified number of collisions or head impacts in any given match or season. Impact training sessions could also be assessed to ascertain whether a reduction in the amount of collisions in training would be beneficial. 75

Finally, clubs could create their own concussion management policies. Following the identification of the risks in their risk assessment and the implementation of preventative measures, the clubs could draw up concussion regulations to address such risks. Ideally the policy would provide an internal disciplinary procedure to deal with any alleged breach of the regulations, and appropriate sanctions for any such breach. The policy and regulations should be reviewed regularly in line with developments in concussive injury research and effectively enforced to ensure compliance. 76

Conclusion

It is often cited in relation to long-term risks posed by concussive injury that there is no conclusive evidence of a link between repetitive concussive injury and long-term brain injury. Applying health and safety legislation to rugby union work systems, conclusive evidence of risk is not the appropriate test. The appropriate question for a prosecutor is: at the time of injury, was there a risk of which the employer was aware, or ought to have been aware? Consequently, employers who do not take the obligatory steps, pursuant to legislation, to protect the health and safety of their employees could be guilty of criminal conduct. 77

There are fewer medical studies on the impact of head injuries in rugby union compared with the evidence available to the NFL - but parallels are emerging between the events leading to the institution of the NFL concussion litigation in the US, and current events in the UK and Ireland. In 2014, a diagnosis of CTE was made in relation to a deceased 57-year-old rugby player. In the UK, MPs and leading sports people produced a report on, and requested a parliamentary inquiry into, the effects of sports related concussion (2014) - and in Ireland an Oireachtas Committee has produced the report referred to above. 78

The issue with the current approach to concussive and suspected concussive injury is that they are trying to diagnose what is medically a complex injury in an insufficient period of time. If the symptoms that confirm the presence of concussion can take up to 48 hours to materialise, it is logically impossible to definitively rule out the presence of a concussive injury in a ten-minute medical assessment. Returning a player, with potentially delayed concussive symptoms, to the traumatic environment of a rugby field increases the risk of further and exacerbated injury. This risk is being discussed in the media and has been recognised by the Irish Government. 79

The risk is, therefore, one employers are or ought to be aware of. As a result, it is the statutory duty of rugby clubs and unions, in their role as employers, to carry out a risk assessment on the role of the PSCA/HIA in their systems of work. Clubs must then take reasonably practicable steps to eliminate or mitigate the risks posed by the PSCA/HIA and their concussion management systems, to avoid liability. 80

Given the evidence, in the public domain from 2005 at least, if a professional rugby player presents with a long-term brain injury in the future - and it can be proven that a risk of injury was present in the course of their career, yet their employers failed to take reasonably practicable steps to mitigate that risk- there are sufficient grounds for a criminal prosecution of the player's club or union. 81

The NFL concussion litigation has demonstrated that denial of the issue and failure to protect the health and safety of their participants, has led to costly and lengthy litigation. To avoid 82

further liability, and potential indemnification issues, rugby clubs ought to implement a comprehensive concussion management policy. This should start with the immediate removal of players from the rugby field, if there is a suspicion of concussion, and implementation of the return to play protocol thereafter. Concussion management policies should be based on the findings of a suitable and sufficient risk assessment and applied by fully informed staff. Given what we now know about the current approach, and the long-term risks of concussive injury, it is hard to say that it is fit for purpose.

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