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Concussion Knowledge and Attitudes in English Football (Soccer)

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CONCUSSION KNOWLEDGE AND ATTITUDES IN ENGLISH FOOTBALL (SOCCER)

by

JOSHUA WILLIAMS

(Under the Direction of Thomas Buckley)

ABSTRACT

While concussions are prevalent in soccer, outside the US there has been limited investigation into soccer players' knowledge and attitudes regarding concussions. The purpose of the study was to assess English soccer players' concussion knowledge and attitudes. This study used a cross sectional mixed methodology design. Participants included 26 respondents (Age: 23.4 ± 4.5 years, playing experience 16.4 ± 4.4 years) playing for a Championship team in England (Response rate: 89.6%). Fifty percent of respondents had a diagnosed concussion history. Participants were administered the valid and reliable ROCKAS-ST survey divided into 5 sections and includes 3 constructs: concussion knowledge (CKI), concussion attitudes (CAI), and a validity scale (VS). A 16-item symptom recognition checklist was also administered. The survey contained 17 true/false CKI questions scored as 1 point for the correct answer and an additional 8 potential points for correct identification symptoms for a range of 0 – 25. There were also 15 CAI questions scored on a 1 – 5 Likert scale for a potential range of 15 – 75 with higher scores indicating safer concussion attitude. Following the administration of the survey, athletes participated in a 10 - 15 minute semi-structured interview. Interviews were transcribed and focused by the lead researcher then returned to participants for member checking. Then interviews were bracketed and themes were identified which

were triangulated using the survey results, Nvivo™, and a research team. The mean scores for the CKI were 15.5 ± 3.0 (mode: 14.0; median: 15.5; range: 8 - 21). The mean scores for the CAI were 59.0 ± 8.8 (mode: 61.0; median: 60.0; range 41 - 71). Participants correctly identified 13.3 ± 1.6 of symptoms and 6.2 ± 1.5 of the 8 actual symptoms. The mean total score was 74.5 ± 9.8 (mode 67.0, median 75.5, range 54 - 91). None of the 26 respondents failed the validity scale. The main themes to emerge from interviews were injury reporting, concussion definition, concussions awareness, misconceptions, physiotherapists, and discrepancies. This is the first study to investigate concussion knowledge and attitudes among soccer players in the Championship in England. The interviews provided insight into the behaviors and attitudes about concussions that could not be completely captured using surveys alone.

INDEX WORDS: Concussion Knowledge, Soccer, Concussion Attitudes, Concussion, English Soccer, English Football

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(SOCCER)

by

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B.S., Washington State University, 2011

A Thesis Submitted to the Graduate Faculty of Georgia Southern University in Partial

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DEDICATION

I would like to dedicate this to my parents who were always pushing me to do my best and never give up no matter how frustrating or exhausting things got. They were great sounding boards for all my ideas as well as helped financially with the travel for this project. I would also like to dedicate this to my athletic training family who were always there to support and encourage me through this project.

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CHAPTER 1

INTRODUCTION

Soccer is the most popular sport in the world with over 270 million players worldwide and four million players in England alone.¹ In England, participation rates are similar across socioeconomic groups with more males than females overall.² Almost half of all English adult males are, or have been, regular soccer players.² The incidence of soccer injuries in adult male players is estimated to be between 7.6 and 35 per 1000 hours of play.³ The overall injury rates tend to be lower in lower levels of play, but over the course of one season of an English Premier League team, 91% of player sustained an injury that resulted in time lost from competition and practice.⁴ Of all injuries in soccer, head injuries make up between 4-22% with concussions contributing approximately 11%.^{3,5} An adult who has played soccer for 10 years has a 50% chance of having sustained a concussion.⁶ This poses a risk to the athletes because once an athlete sustains a concussion, they are more likely to sustain another and it is more likely that the following injury will result in more symptoms and slower recovery.⁷ At the elite levels in Sweden, players who sustained concussions missed an average of 27 days or about 10% of the club season and any additional international play.⁸ Concussions that are causing players to miss 27 days are probably the more moderate and severe concussions suggesting that there is the possibility that minor concussions are going unrecognized. Therefore it becomes important to assess the knowledge base of players so that they can report those symptoms to the health care provider on staff.

Soccer injury rates vary based on the level of play, however the higher the level of play the more likely injuries are to happen.⁹ A study of four English Premier League teams found an injury rate of 8.5 injuries per 1000 hours of play and that during games, injuries were more likely to occur during the last 15 minutes of the first minutes and the last 30 minutes of the second half.¹⁰ In professional soccer, there are between 1.7 and 12.5 head and neck injuries per 1,000 player hours.^{11, 12} A study of 25 European teams found 46 concussions across 773,563 exposure hours and in 23 Swedish Premier League, concussions only made up 1% of all injuries.^{8, 13} Conversely, a study of American collegiate soccer suggested that the average team would experience between 1 and 1.5 concussions per season or .49 per 1,000 athlete exposures which may suggest that concussions may be under-reported in the elite English leagues.^{14, 15}

Players may be under-reporting concussions due to the lack of knowledge and/or misconceptions that they have. The most common way misconceptions and knowledge are evaluated is through the use of retrospective surveys.^{16, 17} In NCAA athletics, approximately 25% of athletes have experienced a direct blow to the head that resulted in dizziness and other somatic complaints, and have failed to report their symptoms while playing.¹⁸ American football players show a greater tendency to ignore their symptoms, but other athletes in sports such as soccer have also reported similar responses.¹⁸ One example of this would be Manchester United defender Rio Ferdinand who sustained a considerable collision during the first half, finished the match, and afterwards posted on Twitter® that he could not remember what happened during the second half of the game.¹⁹ In England, many people are unaware that brain injury commonly produces memory deficits.²⁰ Half of respondents of a knowledge survey thought that complete

recovery from severe head injury was possible as long as the individual worked hard at recovering.²⁰ A majority of people thought that players woke up from being knocked unconscious with no lasting effects and that a second blow to the head could help a person remember things that were forgotten after the first injury.^{20, 21} The most concerning issues that came out of this study was that 91% of respondents felt that when a person felt back to normal, the recovery process was complete.²¹ These misconceptions were similar when discussing sports concussions.²¹ Most respondents rejected the possibility of increased vulnerability following and concussion but endorsed that loss of consciousness was required for there to be a concussion.²¹ If athletes hold the same misconceptions as the general public, they are potentially putting themselves at risk for further injury. It is important that athletes are able to recognize signs and symptoms of concussions so that they will report the injury to their athletic trainer or physiotherapist.

One of the challenges with concussion management is that sports medicine clinicians are not always able to identify the injury without it being report by the athlete; however, soccer players frequently do not report concussion related symptoms.²² Among soccer players, 35.5% have reported sensory, somatic, or cognitive symptoms, which include seeing stars, nausea, or prolonged headache following a blow to the head; however, over half continued to play without reporting the symptoms.¹⁸ Similar findings were noted amongst Italian youth soccer players with over half of concussion symptoms not being reported.²² The reasons that athletes did not report potential concussions was because they did not think they were serious, thought it was part of the game, did not know it was a concussion, or did not want to be removed from the game.²² When athletes did report their injury it was most commonly reported to the coach, parent, and

physiotherapist third.²² Also, most players indicated that that they would not report their teammates injury because they did not think it was serious.²² Another study of rugby players that that about a quarter of rugby players thought that a concussed teammate should play in an important game.²³ Finally, most players felt that a concussed teammate had stayed on the field and some even felt that a player had been pressured to play while still symptomatic.²³ The pressures that athletes feel to play through concussions may stem from misconceptions or there may be cultural factors that motivate them.

An important impact on player's attitudes and behavior could come from the soccer culture surrounding the leagues they play in. The English soccer culture has been growing and changing over the last 25 years. From the mid 1960s to the last 1980s, football stadiums were dominated by intoxicated disorderly fans know as "Hooligans", a term used to describe any deviant behavior associated with soccer.^{24, 25} Despite its existence in multiple countries, "hooliganism" has been called the "English disease".²⁵ It was routine for there to be riots, fights, and occasional deaths surrounding soccer matches.²⁴ Hooligans were known to have intense, complex, and reflexive celebrations of rituals surrounding their team.²⁴ This often left hooligans with psychological and physical pain when their team lost.²⁴ The decline of hooligans all culminated with the death of 96 Liverpool fans due to a flawed stadium design and poor policing strategies, which is known as the Hillsborough Stadium Disaster.²⁴ Although, not all fans are not this extreme about their teams, there is a sense of loyalty surrounding each club which bring their supporters together and it is this loyalty which is tied into their self identity and their notion of community.²⁶ When analyzing a stadium crowd, less than 15% of fans have supported multiple teams, most attend all home matches, and more travel to six or more

away matches.²⁶ The structure of fan support is based upon parent and child interaction.²⁶ Most youth are taken to matches by their parents and in turn become supporters of the club. They continue to support the club over the course of their lifetime until they have children and the cycle repeats.²⁶ The extreme fandom may cause players to try and play through injuries. In regards to concussion, the manager of Manchester United, Sir Alex Ferguson said, "I don't see any history of players quitting because of concussion."²⁷ Arsenal manager Arsène Wenger reported after a match in which one of his players had been diagnosed with a concussion that it was a little concussion from an accidental elbow and the injury was not serious.²⁸ Finally, Chelsea's captain John Terry who was knocked unconscious for six to eight minutes after colliding with an opponent's boot and was taken to a hospital and diagnosed with a concussion.²⁹ His teammate said that the player was made of strong stuff and he proved it by getting back after the game in time to celebrate with team after the win until 3 am.²⁹ These players seem to be downplaying the seriousness of concussions and are putting themselves at risk for further injury by not taking concussions seriously.

Concussions are an injury rarely reported in professional soccer; this may be due to the lack of knowledge or misconceptions that players have about them and could result in a lack of reporting and player's disregarding the injury. Therefore, the purpose of the study was to assess English footballer's knowledge and attitudes surrounding concussions. The research questions were: 1) Can players correctly identify signs and symptoms of a concussion? 2) What misconceptions do players have about concussions? 3) What is the player's current level of concussion knowledge? 4) What attitudes do

players' have about concussions? 5) What are the reporting rates and reasons behind reporting rates?

CHAPTER 2

METHODS

Participants:

In this study we recruited 26 out of 29 (89.6%) members of an Npower Championship team. Of the 29, two did not meet our inclusion criteria of age and one was unable to participate due to time restrictions. Contact with the team was made through an acquaintance of a professor at a university in southeast Georgia. His acquaintance was in contact with a head physiotherapist for the club that was used. Correspondence was made to find out if the physiotherapist would be interested in recruiting his team to participate in the study. He was interested and invited the lead researcher to come and complete the study at the teams' training facility in England. Of the 26 who agreed to participate, 17 were English, 4 were Irish, 1 American, 1 Norwegian, 1 Scottish, 1 from New Zealand, and 1 was Welsh. The mean height of the players was 1.80 ± 0.08 M mean weight was 80.6 ± 7.4 kg, mean years of playing experience was 16.4 ± 4.4 years with professional experience being 6.2 ± 4.8 , and the concussion history was $.7 \pm .8$ with 50% of players have a diagnosed concussion history and a potential concussion history (self reported knocked silly or seeing stars but not diagnosed as a concussion) of 1.0 ± 2.1 . The inclusion criteria included any athlete who was on the roster and over the age of 18. Participants were recruited with the assistance of the head physiotherapist of the team and no incentives were provided. The participants signed an informed consent prior to participating in the study as required by the University's Institutional Review Board.

Instrumentation

Concussion Knowledge and Attitudes

A modified RoCKAS-ST questionnaire was used to assess knowledge and attitude towards concussions. (Appendix D) The RoCKAS-ST consists of 5 different sections, 4 of which were used for this study.^{16,17} The concussion knowledge index (CKI) consists of 25 items and the concussion attitudes index (CAI) is a 15-item questionnaire. The 25 questions in the CKI section are each given one point for correct answers with a total range from 0 - 25. The CAI section consists of 15 questions and are graded on a 5 point Likert scale. Answers are scored based on what is safe in terms of concussions with a total range from 0 -75. The CAI has been shown to be valid and reliable ($\alpha = .79$).¹⁶ The CKI has a reliability of .67.¹⁶ Although the reliability of the CKI does not reach the stability of .70, there are no consistent theoretical constructs underlying clusters, but items are distributed based on the level of difficulty of the question.¹⁶ The Cronbach's alpha of the RoCKAS-ST is .76.¹⁶ The validity of the instrument is based on 3 questions (numbers four, ten, and fifteen) built into section 1. Each correct answer is given one point and if a person scores either 1 or 0 their survey is discarded for poor or inconsistent effort.¹⁶ The last part of the RoCKAS-ST questionnaire was removed and the 16 symptom recognition checklist was added.³⁰ The 16 item symptom recognition has a reliability of .89, an ICC of .88 and a Cronbach's Alpha of .83.¹⁶ This was used instead of the RoCKAS-ST symptoms because of its previous use in the literature.^{30,31}

Identification of Potential Bias

As the primary researcher, I am a graduate student at Georgia Southern University. I have played soccer for approximately 14 years including 2 years of high

school as well as 3 years at the collegiate club level. I have never been diagnosed with a concussion in my soccer career. As a soccer player I believe that if I was on the pitch and received a mild concussion, I would probably play on through it. I have been a certified athletic trainer for approximately two years. In my two years since certification I have gone through rigorous coursework involving concussions. I have also worked at a high school where I provide Athletic Training services for 16 sports and have diagnosed athletes with concussions. In diagnosing athlete with concussion I typically use the SCAT2 and the BESS test combined with athlete reported symptoms. I have tried to increase knowledge and attitudes within my own practice by hanging up posters as well as talking to my teams during preseason meetings about the importance of reporting concussions as well as potential risks of playing through concussions. I am also a soccer fan and follow the Premier League almost exclusively. I do not believe that my fan status would impact my research because although the athletes at the club where I am doing my research are of a high caliber, they do not quite have the superstar status associated with the players in the premier league. I also think that as a fan with a medical background, I always want what is best for the player regardless of the results of the weekend's match. The seasons are so long that it is better that the athletes get the treatment they need to be strong for the entire season instead of trying to play through injuries week to week. From a soccer perspective, I think that concussions are important injuries that are often not addressed actively by the soccer community. I think this is especially true at the higher and elite leagues. There is the possibility that the increased skill means that these injuries are not occurring, but the research numbers that exist indicate the opposite. Instead, athletes at the elite levels should be experiencing more concussions but are not. In

England, there seems to be less of an emphasis on concussions compared to the United States. I think these factors might result in players in my study having lower concussion knowledge scores and some unsafe attitudes. I think these are both tied into the fact that there is not as much coverage of concussions within their sporting world and so they aren't bombarded with information about it as American athletes.

Interview Procedures

The semi-structured interviews consisted of 27 main questions with 10 follow up questions. (Appendix F) All were based on literature surrounding concussion knowledge and attitudes.^{22, 30 20, 21} The questions were stated in a neutral manner to avoid influencing the answers of the participants in any way. To ensure face validity and potential language issues, the questions were reviewed by experts within the field as well as two physiotherapists in the United Kingdom. The purpose of the interview was to further expand on and explain the data that was collected by the survey, as well as, gather a greater depth and detail that was not realistic to explore in the survey.

The survey was piloted on an English professional soccer player and interview questions were piloted on a small sample of English soccer players and lasted between 15-40 minutes. Upon completion of the survey, he was asked if any parts of the instrument were confusing or worded incorrectly. He did not have any concerns regarding the survey. Following interviews, participants were asked if they had confusion or any issues with any of the questions that were asked. Problems or concerns were evaluated by the lead researcher as well as the research team which resulted in a few minor changes to the wording and order of questions.

Procedures:

The study took place while the lead researcher was visiting England during the middle of July for the 2012-2013 preseason of the club. Participants were asked to report to the primary investigator and were given a paper copy of the modified RoCKAS-ST. (Appendix D) The first page of the survey contained the IRB informed consent form. When distributing the survey, the principal investigator explained the purpose and aims of the study and participants had the opportunity to ask questions and provide written consent. The second page contained the demographic questions followed by the RoCKAS-ST questionnaire. Participants individually completed the questionnaire under the direct supervision of the primary investigator. Upon completion, players returned the surveys to the primary investigator. Following survey administration, interviews took place within the club practice facilities. Most took place within the physiotherapist's office, but some accommodations had to be made for players schedule, therefore not all were held in private locations. Players were then asked the semi-structured questions and instructed to expand as much as possible. The follow up questions intended to find deeper meaning and clarify answers from participants. Interviews were recorded using the lead researchers Ipad™ and Iphone™. The surveys took 5-10 minutes to complete and interviews lasted between 10-18 minutes. Upon analysis and transcription, pseudonyms were given to participants in order to protect their privacy.

Data Analysis:

This was a mixed methodology cross sectional study design. For the RoCKAS-ST surveys, scores were tabulated from the answer key.¹⁶ (Appendix E) A frequency analysis was carried out on the surveys using SPSS™ to find how often questions were

answered as well as to gain some general information about the demographics of the population. Answers on the survey were compared with answers given in the interview to assist with triangulation of the data.

Once interviews were completed, the primary researcher transcribed the audio recordings and read through them to obtain a general sense of the information. The data was then focused to reduce irrelevant and repetitive data. All participants received a copy of their interview transcript to ensure accuracy. They were given the opportunity to make any changes or additions, however no changes were requested. Then the primary investigator read through the transcriptions to begin coding the data using NVivo™. Within this process, text was separated into identifying segments that addressed similar topics. These topics were clustered together into separate categories and then categories were identified by a term that represented the general idea they were addressing. The transcriptions and themes were reviewed by the research team to ensure themes identified by the primary researcher were credible. Participants were given pseudonyms in order to ensure confidentiality. The data was then interpreted to explain the meaning behind the data and combined with the quantitative results as a part of triangulation. In addition, a bracketing interview, verification of transcripts, comparison with survey results, and the use of a research team ensured trustworthiness of the results.³²

CHAPTER 3

RESULTS

Assessment of Concussion Knowledge

All participants completed the survey as instructed and all successfully passed the validity scale (mean: $2.6 \pm .5$, range 2-3) and therefore all 26 are included in the results. Due to time constraints, one player was only able to complete the survey.

The CKI mean was 15.5 ± 3.0 (median, 15.5, mode, 14.0, range 9 – 22) (Appendix G, Table 1). Within the CKI, the most common knowledge questions correctly identified were: 1) players were not losing intelligence after sustaining concussions (100%, 26/26), 2) loss of consciousness being required for a concussion (88.5%, 23/26), and 3) recognition that concussions will affect performance (88.5%, 23/26). There were three major misconceptions: 1) there was no increased likelihood of repeat concussion after a player had sustained one (3.8% 1/26), 2) brain imaging could detect physical damage from concussions (28% 7/26), 3) there were no long term risks to health from multiple concussions (46.2% 12/26).

The CAI mean was 59.0 ± 8.8 (median 60.0, mode 61.0, range 41-71 (Appendix G, Table 2.) The safest attitudes were about athletes who were knocked unconscious being taken to the emergency room (80.7%, 21/26), managers keeping players with concussions out of games (80.7%, 21/26), and physiotherapists making return to play decisions regarding concussions (69.2% 18/26). The riskiest behaviors included return to play with a concussion during semifinal playoff games (38.4% 10/26), and playing through a headache resulting from a concussion (57.6% 15/26).

The mean symptom recognition score was 13.3 ± 1.6 (median 13.0, mode 12, range 11-16). The mean symptom recognition of true symptoms was 6.2 ± 1.5 (median 7.0, mode 7, range 4-8). The mean symptom recognition of false symptoms was 7.1 ± 1.0 (median 7, mode 8, range 4-8). (Appendix G, Table 3). The most commonly identified symptoms were headache (100.0%; 25/25), dizziness (92.0%; 23/25), blurry vision (92.0%; 23/25), confusion (92.0%; 23/25), and LOC (80.0%; 20/25). The most commonly missed correct symptoms were amnesia/memory loss (52.0%; 13/25) and sleep problems (48.0%; 12/25). Of the false symptoms, players identified decrease in neck range of motion as the most commonly missed symptom (44.0%; 11/25).

Semi-Structure Interview Responses

Six themes emerged from the interviews with 25 of the players. The themes were identified using Nvivo™ and identified by repetition.³² These included 1) reporting injury, 2) concussion definition, 3) concussion awareness, 4) misconceptions, 5) physiotherapists, and 6) discrepancies.

Reporting Injury. The majority of responses concerning reporting injury dealt with playing through injuries. Participants commented on the fact that playing through injury was highly dependent on how bad you were “feeling it”. In other words, participants were willing to play through the injury as long as it wasn’t extremely painful, couldn’t run it off, or was impacting their performance. Dylan commented, “you always wanna try and play through little injuries and little knocks if you feel like you can still get through the game.” Anthony stated, “I think you do report it, you will always say you’re alright to carry on unless it’s too serious.” Ryan stated:

“If I think I can get through the game, I’ll play through any injury really. If I start the game I expect to finish it...if you’ve got a strain or a muscle problem, a lot of us will probably keep it quiet because we want to play in the games and don’t want to miss it through injury.”

Statements concerning injury reporting were generally the same regardless of the number of substitutions available or differences in the score line. For example, Nick said, “Like if I get some of a niggle [minor injury or slightly nagging injury] I’ll try and run it off but if it doesn’t sort of go, like if it’s still sore then you’d tell the physios.” Similarly, other participants commented:

“From a personal point for a player, they’d rather play through any type of injury no matter what was going on, but I think, I don’t think it comes down to substitutions rather than themselves.” (*Chase*)

“I think a lot of the time when you’re playing you just want to keep playing and play regardless of the substitutions or what not. I think it’s more you just want to keep playing and keep helping the team.” (*Dylan*)

There was one situation in which participants would play through injury. Players were unwilling to bring their side to ten men and come off the pitch because of an injury:

“You’d have to get through it [the injury].” (*Andrew*)

“If I got injured and say all the subs had been made then yeah. Especially if it’s toward the end of the game and you’re struggling you’d get through it as long as it wasn’t too serious.” (*Jaden*)

It was interesting to note that participants were more likely to try and hide injuries during important games, although they were unable to define a major game. Some felt

that “every game was a major game.” Others felt that cup finals or relegation battles were more important games. Luis reported:

“I mean, I guess every game is a big game in the season over here. But I mean if you want to get into the big big games talk about like finals of tournaments and stuff like that. But I mean every game’s a big game really.”

With regards to the impact of significant others on injury reporting, some players responded that their family had no impact in their injury reporting and that it was their decision alone. Others reported:

“I don’t think your family would want you to go out there and play at your best to be honest. They want you to go out there and do well all the time. So if they knew you were slightly injured or had something wrong I think they would tell me as well to go and tell the physio.” (*Andrew*).

“I mean you think about it’s your career and if you’re going to do something that’s going to affect your health and you have a family to think about to provide for then yeah I’d say it does for some of the other lads. I’m a single lad who just hasn’t got a family so probably not so much for me. I can think for myself but if I’ve got children and a family who depend on me then yeah it probably would effect me.” (*Charles*)

Concussion Definition. All players were asked to define a concussion. Those who were unable to define a concussion were asked what people might experience or how concussions occurred. Most players identified a “knock to the head” as the primary mechanism for concussion and continued to identify signs and symptoms of concussions. Charles described it as, “a period of abnormality after either a severe blow or a collision

and then the post effects to that [the collision] being abnormality i.e. the loss of vision or memory loss.” Generally speaking, the most typical definitions were:

“A blow to the head, dizziness, sickness, blurred vision, just something that makes you unwell.” (*Michael*)

“A concussion is just a whack to the head maybe. Well I would say it would be a blow to the head. Maybe someone’s got dizziness, maybe a bit of nausea, headache, probably about it I’d say.” (*Tyler*)

Others told personal stories of how they received concussions and how they felt while experiencing them. The stories mostly came out of game situations where players were challenging for balls out of the air and involve either LOC or performance altering symptoms such as dizziness or blurred vision. There were three exceptions to this. The two goalkeepers received their concussions diving out at onrushing strikers. The other exception was one participant who was struck in the head with the ball while standing in a wall during a direct free kick and suffered a concussion. The seriousness of concussion was consistent among all players but the definition of how severe ranged from player to player. For example, players reported:

“Concussion wise, I’m pretty sure that both myself and every other player would mention if we were feeling like we were concussed because we know of how serious it can be.” (*Ryan*)

“Very serious. I’d think so yeah. Very serious. Just as bad as anything because concussion can keep you out for a few weeks, so can a hamstring keep you out for a few weeks.” (*Tyler*)

“If I got a concussion I wouldn’t take it as serious as if I got a groin strain or a hamstring or something like that.” (*Jaden*)

“I think they should be taken pretty serious, I mean obviously they’re not like a broken leg where you can’t run and stuff but it’s your brain and it’s pretty important to every day life so it needs to be taken care of and treated like it’s as serious as other ones.” (*Luis*)

“It’s [concussion] a dangerous one [injury] because you might want to play through it. Of course if you had a broken arm you wouldn’t play though that because you know you had a broken arm. But with concussion you don’t know exactly that you’ve got it so. Compared to others, it’s a dangerous one but you don’t notice it that much so it probably slips away sometimes.” (*Aaron*)

Participants also felt that there were risks of playing through concussion but didn’t know what the risks could be. The most common answer was, “Could be further damage” but few could explain what the further damage would be. Sam commented, “Yeah I think there’s risks but I don’t really know what they are.” Yet, there were some participants who were able to identify issues related to repeated concussions:

“Yeah because if you get concussed again, it can effect, obviously what’s up there, your brain and stuff I think. Yeah so you need a bit of time off after a concussion otherwise it can be quite bad, quite risky.” (*Caleb*)

Concussion Awareness. *Awareness of Others.* Players felt that generally fans were more concerned with winning. There was also a general sentiment that players should carry on and finish matches and deal with the repercussions of the injuries once the match was

over. Participants felt that fans would probably say, “Oh he’s had a bang to the head he can carry on.” Aaron thought:

“They just want you to play. They don’t care about if your broken leg or concussion or anything they just want you to play. They probably don’t think it’s very serious. If they clash heads it’s nothing, just get up and get on with it that’s what they think.”

The majority of players felt that they would not play through concussions for the fans. Charles reported:

“You would never say that in the press. Of course you wouldn’t but I think you’re less likely to play to play through the fans. It’s very rare that you have players that are that connected to the fans that they feel an obligation to play. I know they do because you do feel an obligation but not to the extent not to risk your own personal health.”

When talking about teammates concussion attitudes, players felt that their teammates had views similar to their own. Oliver reported, “I think everyone’s pretty similar. Everyone knows their own body and if they think they can play then I’m all for them playing and if they don’t think the play, then I’m sure everyone would understand.”

Anthony reported, “I don’t know we’ve never spoke about it. I’m guessing that they’d say the same. If you’ve got it just make sure you’re all right and do the right thing.”

Aaron stated, “I think they think it’s serious but they, I don’t think they realize how serious a concussion is. A little bit unaware some of them I’d say as well.”

From a general public awareness perspective, players talked about the media and high profile Premier League players. Players reported:

“Like for instance you don’t hear of many injuries of concussion. You’ll hear of, you might get 10 a season for instance in the media but it’s not really made out to be a big thing.”(Anthony)

I think they are starting to like kinda come to terms with it a lot more now obviously with Petr Čech when he got kneed to the head wears the new headband and stuff. So I think they are starting to kinda, come together a lot more on it now.” (Chase)

“I mean you don’t really hear much about it, especially with all the stuff going on in America about the other football. It’s not really that serious over here I don’t think no... Yeah it’s a serious matter it’s just, I don’t know how often it happens and guess they don’t really publicize it as much over here, soccer wise as they do in the NFL.” (Luis)

“I wouldn’t say there’s a problem but compared to a sport of something more physical like rugby or American football then I’m sure that more concussion happen than in soccer.” (Charles)

With regard to managers, some players felt that they would be understanding of concussions because most of them had played professionally before. Similarly, participants felt that managers wouldn’t want to risk your health for an extra 15 minutes on the field because the seasons are so long. However, a few mentioned that managers had ways of getting players to play and if they wanted you to finish out a match they could find ways to do it.

“Well I think if you ask them out of a game scenario they’d probably say of responsibility saying that they would eject a player immediately and because they

are responsible for their team they'd say that anyone with a concussion can't play. But in the heat of a game situation where results matter and especially in football where it is so cutthroat I'm sure managers would think differently if we've already used three substitutions and a player with a concussion needs to come off and we're gonna be one man down I'm sure managers are more likely to say keep him on because I know I've seen it happen." (*Charles*)

Personal Awareness. As for the player's personal awareness, 13 (50%) reported a concussion history with two being goalkeepers. The goalkeeper's concussion resulted from being kicked in the head while diving out of the box.

"I was in the U team at my previous club. I'm a goalkeeper and so I came and slid for a ball and I got the ball before the striker and the striker kicked my head like a football and, well I don't even remember that. I just remember collecting the ball. That's the last thing I remember and then everybody else said to me that the player had kicked my head like a football. He thought he could get to the ball before I did and I got it there before him and he kicked my head like a football. Like a proper shot like close blank like point blank range and I got the concussion." (*Ian*)

Of the other 11, 10 came from challenging for headers. One example of this:

"I just went to flick the ball on and got an elbow in the back of the head. A full smack and I got back up and didn't really know what was going on and fell back down again. I got stretchered off and woke up in the changing rooms. Physio was asking me what was up and it was the first minute of the game and I told him we were winning 4-1. It was nil nil and I had no idea what was going on." (*Will*)

Interestingly, only one player reported getting a concussion from being hit in the head by a ball. Of the players who did not have personal experience with concussion, they still felt that it was a serious injury but admitted that because they had not had one, they were ill informed about them. Those player's responses were similar to Levi, who stated, "I've never really experienced it or anyone experienced it around me to be fair so I wouldn't really know." Others said:

"Probably this is the first conversation I've really had on talking about it so it probably needs to be brought to attention a little bit more... You're asking me questions has made me realize that I don't know as much about it as what I expected. They're not that frequent in football for people to think about them constantly to be honest." (*Isiah*)

"It's not often it happens to yourself but it might happen a lot to other people. So it's something that when you're told it happens and you don't know much about it." (*Owen*)

"I think they [physiotherapists] should give a little bit more information because they've never given anything about concussions to us." (*Aaron*)

When asked where they received their concussion knowledge from, the answers were varied. Some players mentioned television or hearing about them on the news, others had no idea where they came from and called it general knowledge or what they believed about concussions. Examples of this were:

"I don't know whether it is actually is knowledge or not I'm just guessing. Guessing what I probably would believe myself." (*Ryan*)

“I don’t know to be honest. I just hear bits about it here and there but I’ve never read anything on it or been told anything about it. So I wouldn’t know like symptoms or anything.” (*Sam*)

Misconceptions. Participants had some general misconceptions about concussions. One of these misconceptions was that a concussion caused bleeding, or hemorrhages, in the brain. One player reported: “A concussion is either bleeding in the brain or you’ve been knocked unconscious.” Another major misconception was that there was a discrepancy between “a whack on the head” or seeing stars and a concussion. Isiah even went so far as to say, “I’ve been knocked out quite a few times, but I wouldn’t know the difference between fully concussed and playing on.” Michael said, “Seeing stars can be, you can get them just from a knock on the head and you’re not gonna be concussed. Seeing stars doesn’t necessarily mean that you got concussed.” Luis stated, “When you’re seeing stars, you’re kinda dazed, confused, don’t know where you are, don’t know really what happened, and I’ve had a couple where I just got hit but still kinda remember what happened and where I was and stuff like that so, I guess those two differences. You’re not as dazed and confused as a lighter one [concussion].” Isiah’s response to this question further illustrates the confusion:

“When if you do get a whack on the head it’s very, I think there’s a difference between blacking out and concussed I could imagine. So, no I’ve had plenty of whacks on the head and I’ve always been fine. I’ve been knocked out quite a few times, but I wouldn’t know the difference between fully concussed and playing on if you understand. I’ve not really played on with concussion I don’t think. I think I’ve been out, and then I think I’ve had whacks and carried on I don’t think I’ve

played on with concussion. Unless I've been knocked out, I've been knocked out and carried on, so I'm not too sure if that's the same."

Another misconception was that a concussion could not be properly diagnosed without a brain scan. Ryan states, "Then obviously once they send you for a scan or whatever you need to do at the hospital." Dylan noted, "No I think you can tell by certain symptoms that you have a concussion but I think it can't be confirmed really until you have the scan and you see the amount of damage or how bad the concussion is." Levi responded, "Yeah like if I get a CAT scan or something just to see if anything's wrong with your head or brain damaged. Then you would know what a concussion, or what it is."

Lastly, a few players mentioned being cleared to play while suffering from symptoms of a concussion. Ryan said, "If someone gave me the all clear to play with a concussion then I would play. If, you've got half the lads that would do that." Isiah reported, "I think the days I came back onto the pitch [after being knocked unconscious] it had been because it was either a big game or nobody to replace us." Chase reported, "It all depends on what a doctor would say to me whether I got the all clear to play [with a concussion] or whether he tells me to step out."

Physiotherapists. Physiotherapists were a focal point in all players' answers about concussions. There was a clear reliance on the physiotherapist for concussion assessment, recognition, and treatment. One example of this was Owen, who said, "I think basically the physio will always know best so you should listen to him. Players always seem to think, they are scared to come off the field. So I think the physio is normally the most intelligent one." Players felt that they would not necessarily know

whether or not they had sustained a concussion but once they talked to the physiotherapist, the physiotherapist would know the signs and symptoms and be able to diagnose the concussion:

“You would feel something was there but you would need a second opinion. Like, whether it’s having just a bang on the head or it is definitely a concussion you’d see a second opinion.” (*Jason*)

“Yeah well I think, obviously I think because me head, I’m guessing my head would be hurting. So I’d obviously see the physio and I’d like to think they’d tell me that it’s a concussion and I shouldn’t be playing on. I’d like to think that’s what the feedback I’d get from them.” (*Anthony*)

“Not at the time [on the field]. Probably after the physio said [the player was concussed] but not at the time.” (*Dylan*)

The players seemed to look to the physiotherapist as the focal point of all their injury needs, including concussion. Players who were unsure about concussions and whether or not they were suffering from one, immediately turned to the physiotherapist to diagnose them:

“No. I don’t think I would know because before I’ve had like a smack to the head and for me, I just thought it was a smack to the head. Obviously, I couldn’t remember certain things, went on and got taken off. So I’d go on probably someone else’s advice rather than thinking by meself because I wouldn’t know on the field what a doctor would.” (*Chase*)

There was also the interaction between the physiotherapist and the player. Most players felt that there needed to be good communication in terms of removal from play for a concussion as well as players return to play. One player stated:

“Probably the decision is with the physio but I’d say probably the player and the physio need to talk and see how the person’s had concussion see how they are. See if they’ve recovered and you know, how they are themselves. Probably a joint discussion I would say.” (*Tyler*)

When asked about how long a person with a concussion should be out for, Will responded, “I think it’s a mutual thing. Obviously you express how you feel to the physios and they say what you think and try to find a happy medium.” Regardless, almost every participant felt that the physiotherapist knew what was best for the player’s health and wellbeing and would take their advice about concussions. This was made clear when Anthony stated, “No I’m guess they’d do the right thing for the player at the end of the day. Like I’ve said before it’s more important that the player’s health is ok.”

Discrepancies. In comparing quantitative and qualitative data, there were several discrepancies between player’s survey response and interview transcriptions. Isiah indicated in his survey that the physiotherapist should be responsible for athletes return to play decision, yet in his interview stated:

“I still believe it’s left down to the player, if he thinks he’s capable of coming back onto the pitch or coming back into training the players made that decision. It shouldn’t lie with the physios if anything else were to go wrong.”

Jason indicated on his survey that he would not continue playing football while also having a headache that resulted from a concussion. However, in his interview, he

reported, “Yeah [I would play through a concussion], I have done before. If you can get through it [the game] and your vision is fine or whatever, fine man up and do it.” Ian indicated on his survey that he would continue to play while suffering from a headache that resulted from a concussion. In his interview, when asked about playing through concussions he said, “Having had that one [previous concussion] probably not.”

Additionally, there were discrepancies within the interviews themselves, with the most common concerning severity and risks of concussions. Players said that they felt that concussions were serious injuries but they were willing to play through them and take the risks. As noted previously, Dylan discussed that it was impossible to know if a concussion truly occurred without a brain scan, but that it was a very serious injury. When asked about playing through concussions, he stated, “I’d try to. If I couldn’t then I’d stop but I’d try to.” He also stated in terms of risks, “Probably yeah but it’d have to depend on the circumstances to decide whether you decide to play through it or not.” Similarly, Luis stated that, “They should be taken pretty serious. It’s your brain and it’s pretty important to every day life so it needs to be taken care of.” When asked about playing with a concussion he said, “Yeah probably, I tried one time but I got held out, was made to stop.” When asked about severity of concussions he reported, “I think anything to do with your head is a lot more serious. Obviously a lot of other injuries can be treated and made better but I think with it being your head you have to just be a little bit more sensible and just listen to the advice that you’re given really.” But when asked about playing through concussions, this same player stated, “Yeah I’d try. I’d at least get up and see if I could carry on and if I didn’t feel completely right I’d tell them. But if I just felt minor symptoms then I’d carry on.”

The interviews provided more depth and insight into the behaviors and attitudes of players that could not be identified by survey methods alone. It also highlighted some of the responses that emerged from the surveys about knowledge. Players recognized concussions as a serious injury but how they would respond to a potential one took on an interesting dynamic within this team.

CHAPTER 4

DISCUSSION

Soccer is one of the most popular sports in England and is unique in that players must take primary responsibility for their injuries while on the pitch due to the fact that medical personnel are not allowed to enter the field unless signaled by the center official and teams are limited to three substitutions. Concussions differ from many typical soccer injuries as they frequently are not obvious and therefore require the individual to self-report their symptoms to medical personal. Therefore the purpose of the study was to assess English soccer player's concussion knowledge and attitudes.²¹⁻²³ The participants CKI score was 15.5 ± 3.3 (potential range: 0 – 25) and the CAI score was 59.0 ± 8.8 (potential range 15 – 75). Six themes that emerged from the interviews were injury reporting, concussion definition, concussions awareness, misconceptions, physiotherapists, and discrepancies. Despite having generally adequate knowledge and endorsing safe attitudes, the interview component of the study indicated a potential disconnect between what players indicated on surveys and their personal feelings and behaviors.

Using a mixed method approach, one interesting finding of the study was that English soccer players from one team in the Championship had both strengths and weaknesses in their concussion knowledge. However, the English soccer player's CKI scores (15.5 ± 3.3) were lower than New York high school athletes (18.7 ± 2.5) and coaches (20.6 ± 1.7).³³ Conversely, the English soccer players CAI score (59.0 ± 8.8) exceeded the high school athletes (55.0 ± 7.7), but was lower than coaches (67.3 ± 5.7).³³ The strengths within the knowledge of this population included symptom duration,

concussion effects on performance, and loss of consciousness. Specifically, all 26 participants (100%) recognized a first concussion would likely not have an impact on intelligence, the vast majority recognized that loss of consciousness (LOC) was not required for a concussion (88%), and brief LOC would not cause permanent brain damage (96%). Further, 88% were aware that concussion symptoms could last for weeks and that those symptoms would impact their performance on the pitch. Finally, 80% of players also felt that managers needed to be cautious when determining return to play of players as well as keeping players who receive concussions out of matches.

The majority of concussions do not involve loss of consciousness or obvious cognitive or balance deficits; therefore, clinicians must rely upon athletes' self-reporting of suspected concussion symptoms.³⁴⁻³⁶ The participants in this study had a mean score of 13.3 ± 1.6 (Appendix G, Table 3) symptoms on the 16-item symptom recognition scale and had a mean of 6.2 ± 1.5 on the 8 actual concussion symptoms. These scores exceeded recent studies in which the 16-item score ranged from 6.4 – 12.3.^{30, 37, 38} It is possible that their increased scores came from either personal experiences or experiences of teammates since half of the participants in this study had a history of at least one diagnosed concussion. Also, participants in this study are older than athletes in previous studies. Another possibility is the increased coverage and attention paid to concussions in the United States has increased their awareness.³⁹ Of the true concussion symptoms, they most commonly identified symptoms were headache (100.0%), dizziness (92.0%), blurry vision (92.0%), confusion (92.0%), and LOC (80.0%) with all being identified correctly over 80%. Conversely, only 52.0% of participants correctly identified amnesia as a concussion symptom, which is lower than 60.3-82% of other athletes and coaches.^{30,}

^{31, 37, 40} This may be because this study used the words amnesia and memory loss while other studies typically used amnesia alone. Sleep problems were correctly identified by 48% of respondents which was in the range of others who identified it 7.7-55.3% of the time.^{22, 41} However, athlete recognition of symptoms does not mean that these symptoms will be reported to a clinician as some athletes reported in interviews they would continue to play if they only had self-described mild symptoms.

There were some misconceptions that emerged from the survey results. Specifically, 72% of respondents indicated that brain imaging (e.g., MRI, CT scan) could detect the presence of physical damage after a player sustained a concussion. This misconception has been commonly reported (range 48 - 55%) by UK general public, youth hockey coaches, American youth football coaches, and Italian youth soccer coaches.^{21, 22, 40, 42} Athletes and the general public alike should realize that changes that are taking place in the brain following a concussion are generally believed to be largely physiological in nature and typically cannot be seen using common imaging techniques.^{43, 44} There is some evidence to suggest that a functional MRI and diffusion tensor imaging may be able to detect changes within the brain following a concussion, but the application of these technologies to concussion management are still in the experimental phase.⁴³⁻⁴⁵ One potential explanation for this misconception was identified during the semi-structured interviews wherein four respondents indicated concussions involve blood clots or hemorrhages, which typically are identified with standard imaging techniques. Athletes who are relying on these images to evaluate their potential concussions may believe that because their MRI is normal that they are fine and return to play while still suffering from a concussion.

Recent findings have suggested that a dose-response relationship may exist for concussions with a history of 3 or more concussions being associated with later life neurological concerns.^{7, 46, 47} However, within the survey, the participants (96.2%) indicated that there was no increased susceptibility to concussion following an initial concussion and that there are no long term health risks from multiple concussions. These misconceptions are commonplace in both the UK and US general public.^{21, 42} In the real world, these risks have been seen in soccer players. West Bromwich striker Jeff Astle, a player who was known for his ability to head the wet leather balls previously used in the Premier League died from dementia potentially caused by repeatedly heading the ball, which he described as a bag of bricks.⁴⁸ Although this is one potential case using outdated equipment, the risks are still present in today's game. Furthermore, the respondents typically downplayed the seriousness of a concussion by comparing concussions to muscle strains. However, they acknowledged there were risks of playing while suffering from a concussion, but were unable to identify any of the potential complications (e.g., second impact syndrome) during the interviews. These misconceptions may be putting players at risk for long term neurocognitive dysfunction and other potential consequences and should be addressed in order to maintain quality of life for soccer players later in life.⁴⁹

With regards to concussion attitudes, during the administered questionnaire the respondents endorsed fairly safe attitudes about concussion. Players indicated that managers who kept concussed players out of games were making correct decisions (n=21, (Agree/Strongly Agree) Mean 4.0 ± 1.0) and that physiotherapists should have the final decision in an athlete's return to play decision following a concussion (n=17

(Agree/Strongly Agree) Mean 3.8 ± 1.1). This is an encouraging finding as previously findings (range: 31 - 64%) indicated that coaches or the players themselves are responsible for return to play decisions instead of a healthcare professional.^{23, 41} In these situations, coaches may feel pressured to return athletes to play while still symptomatic in order to win games and promotional opportunity or avoid relegation.^{23, 50, 51} The other possibility is that athletes feel an obligation or desire to return to play to help out their team without putting their own health and safety first or are being pressured to play while still symptomatic.^{23, 51} This has been seen in other studies in which athletes have returned to play or not reported their concussion based on their attitudes.^{22, 23, 52} The most common responses in previous studies for not reporting concussions were that the athlete did not think it was serious, did not want to leave the game, and did not know it was a concussion.^{22, 52}

During the interviews, the respondents frequently endorsed less safe concussion attitudes compared to the surveys. Most notably, the perceived importance of the match appeared to highly influence the respondent's attitude about participating. Indeed, one respondent commented, "You don't want to be out for a big game if you feel you can play through it" (Dylan). Also, Ryan reported, "If I think I can get through the game I'll play through any injury really." In the survey, there were also a majority of athletes that were willing to play though headaches resulting from a concussion, an idea that was well supported in the interviews. When asking Jason how bad symptoms had to be before he was removed from play following a concussion, he reported, "For me, if my vision is going then I can't, because you can't obviously, your wits about you if you can't see where you're going." Similarly, Ian reported, "loss of memory, any weariness, any

dizziness, and I think you should be removed from play.” These athletes may be playing through minor concussions without recognizing it or returning while still symptomatic. Indeed, Caleb even reported, “If it’s in a game situation then it [symptoms] has to be like, in the middle [multiple and moderate], so like it’s been there for a while symptoms and then take them out.” Surprisingly, Charles was only one respondent who indicated that he knew of former teammates who had intentionally hidden or lied about concussion symptoms in order to play.

Soccer is unique compared to other sports in the United States in that during matches teams are only allowed three substitutions from a limited bench. Also, the inability of players to be evaluated unless the physiotherapist is allowed to enter the field by the referee. In addition, players are not allowed to receive treatment while on the field of play and must be removed from play if the physiotherapist comes onto the field to assess the injury.⁵³ During the interviews, a consistent theme was identified in which the determining factors of injury reporting were 1) if it was going to impact their quality of play, and 2) if they complete the 90 minute match. Players felt that if they were confident they could get through the match and then report the injury they would. Jaden reported, “If you can’t [play through the injury], but if you feel like you can get through the 90 minutes you’ll do whatever you can to get through it.” Numerous respondents also indicated a determining factor would be the substitution rule whereby FIFA (the international governing soccer body) regulated leagues are allowed a maximum of three substitutions per match.⁵³ Specifically, they also reported that if their side had used all of their substitutions, they would likely continue to participate and play injured as opposed to bringing their side to 10 men. If a player continued to play while suffering

from a concussion, they put themselves at risk for second impact syndrome, a rare but fatal condition which results from an athlete with a concussion receiving a second blow to the head.⁵⁴ Once an athlete sustains a concussion, the chances of them receiving another concussion increases.^{7, 47, 55, 56} Also the resulting concussions will have more symptoms, a worse presentation, and an increased recovery time.^{7, 55} Once they have sustained three concussions their chance of having another one increase by three to six times and their chances of long term sequelae increase.^{7, 47, 56} Andrew reported, “If there’s no subs [substitutions] left, can’t bring no one on you got to try and get through it.” Conversely, if there were substitutions left, players indicated that they would be willing to come off if they suffered an injury that they couldn’t play through or if they felt like their performance because of the injury was hindering their team. Although it has not been considered in English soccer, the Australian Football League has begun to consider implementing a rule in which teams would be allowed to make an additional substitution if a player was thought to have a concussion.⁵⁷

While concussion coverage is fairly extensive in the United States, the topic has received less coverage in England.²¹ Along with questions regarding their personal concussions knowledge and decision making, players were also asked about the fans and their personal concussion knowledge. A recent study has found that the UK general public has many misconceptions regarding concussions and brain injury including the requirement for loss of consciousness, the impact of a concussion on a person’s memory, duration and recognition of recovery of a concussion.^{20, 21} Corroborating these findings, players felt that both fans and general public has very limited knowledge regarding concussions. When asked about the fan’s views on concussions, Tyler responded, “I’d

probably say, oh he's had a bang to the head he can carry on. They are probably not very wise to it." Also, Charles reported, "Well, football is very much a tribal association of the players and the whole working 9 to 5 and then getting out and having that mentality of the weekend to be associated with a team and just very gladiatorial inside. So I think that they probably think they should play on with it and you're representing the team and you get on with it and you deal with the repercussions probably after you've got through the games I'd say. As a fan and knowing football fans and my friends they'd say the same." The respondents generally indicated that the public downplayed the seriousness of concussion or had little knowledge associated with treatment and severity of concussions. Interestingly, many of the respondents endorsed some of the same misconceptions themselves and also downplayed the seriousness of concussions. Some also indicated that concussions were not as common in soccer as in other sports. However, in soccer, rates have been reported from .89 - 1.9 concussions per 1,000 athlete exposures.^{58,59} This can be compared to American gridiron football where concussions have been reported at .9 - 1.6 concussion per 1,000 athlete exposures.⁶⁰ Another study of high school athletes found the rate for boys soccer was 1.9 per 1,000 athlete exposures compared to American football which had 6.4 per 1,000 athlete exposures.⁵⁹ Although there incidence of concussion is lower in soccer, players should still be receiving education about the injury. When asked from where they had received their concussion knowledge from, participants indicated that they had never been formally educated about concussions instead considered their knowledge to be general knowledge or hearsay. Athletes should be receiving some sort of education from the physiotherapists and physicians. A few recent studies have found that athletes who receive concussion

education are more likely to report their potential concussion symptoms to a medical professional and are more likely to be compliant with the RTP protocols because they have a better understanding of the risks.^{61, 62} Also, both the third and fourth position statement on concussion encouraged medical professionals to give their athletes concussion education.^{34, 44}

Another important factor besides fans and public awareness were participants' views on their physiotherapist with regards to diagnosing and treating concussions. The physiotherapist is the primary medical professional responsible for assessment and treatment of injuries in English football. Athletes in this study showed a heavy reliance and trust in their physiotherapists. They felt comfortable going to the physiotherapists about any injuries or problems and felt that the physiotherapists were always looking out for the best interest of the players and trying to make sure they were healthy. Charles reported, "If you're a physio you've got to be responsible. I think in all likelihood they'd stand up for if they know they have a player with a concussion. I like to think their obligation is to look after the players and stand up against the manager if he doesn't think because at the end of the day that's the medical responsibility. We put our health in their judgment." On the survey, all athletes indicated that in terms of concussions, they would report them to the physiotherapist immediately and follow their advice when returning to play however, when asked about it in interviews some indicated very different attitudes. Isiah reported, "Like I said, the physio should make the decision [about RTP] if the players not 100% there but I think if the player can focus and come round I think the player should make the decision. End of the day it's his decision it's his career. If he thinks he's capable of coming back onto the pitch or coming back into training the

players made that decision. It shouldn't lie with the physios if anything else were to go wrong." This athlete indicated on this survey that he would let the physiotherapist make the decision regarding return to play. This indicates that participants may have the knowledge and attitudes, but those may not accurately reflect their behaviors. These findings demonstrate the variability of behaviors and attitudes within a single team. Although the fact that athletes are putting so much faith in their medical professional is a positive sign in concussion awareness, a recent study has raised concerns about the management practices of UK professional soccer.⁵¹ This study indicated that most of the teams in the English Football Association do not routinely follow the guidelines that are established by the FIFA sponsored Concussion in Sports Group at the Consensus in Sports meetings.⁵¹ They found that over a quarter of the club medical officers were not aware of the 2008 Zurich Consensus Statement, which raises concerns about their concussion management. Also, over half actually followed practice guidelines regarding evaluation and return to play decisions.⁵¹ They normally relied upon club medical officer's subjective judgment or athlete's symptom reporting.⁵¹ If this is the case, the physiotherapists could be potentially elevating the risks of acute and long-term concussion related pathologies. This is particularly interesting because the FIFA medical manual (Appendix J) discusses concussion within its brain injury section and cites the 3rd international CIS.³⁴ The FIFA medical manual also makes reference of using pharmacological intervention to modify concussion symptoms. It also discusses that effects of multiple concussions is inconclusive due to flaws in the literature. Lastly, the protocols that are used to classify and grade concussions are based on the 2000 Canadian Academy of Sports medicine guidelines.

Although not common in Europe, there was one study done on Italian youth soccer players regarding concussion knowledge and reporting rates. When compared to a study on Italian youth soccer players, more of the participants in this study had a concussion history. In that study 62.1% of youth athletes indicated that they were not reporting their concussions.²² The youth athletes indicated that they did not report their concussions because they did not think the injury was serious which was consistent with the English soccer players who downplayed the seriousness of concussion although they reported that it was serious injury.²² The athletes in the current study indicated that they would report their symptoms if they felt any during a game, but then went on to contradict themselves. This means that they might be under reporting concussion due to lack of knowledge of risks by continuing to play. However, there were some similarities especially involving LOC and imaging for concussions. A majority of participants in both studies indicated that LOC was not required for a concussion. Also both groups felt that the medical staff should make the final return to play decision. Conversely, in both studies, participants indicated to have a reliance on imaging techniques to diagnose concussion. Finally, athletes in both studies indicated they did not know of any teammates who had sustained concussions.

The results of this study are specific to the knowledge and attitudes of one professional Champions league football club in England and extrapolation or generalization to other clubs or leagues should be limited. The team used in this study was not representative in age or diversity to other teams within the leagues or the English Football Association. Furthermore, respondents may not have been entirely honest with the researcher because he was an unfamiliar person. There was also the possibility of

participants falling under the social desirability bias.¹⁶ This is the bias where participants modify their answers based on what they believe the researcher prefers to receive and does not accurately reflect their own personal beliefs. An additional limitation, inherent to survey research and confirmed during the interviews, was the respondent's acknowledgement that they were guessing during the survey. Another limitation was that all interviews were not conducted in a private environment. Players could have felt pressured to answer questions or respond based on who else was around. Finally, the interviews were completed following surveys so participants could have based some of their answers off of questions or potential answers from the surveys.

Even with these limitations, this study does lay the foundation for future research to expand to the other leagues and teams. Results of this study indicate that future investigation among this population should include an educational intervention to try and improve players' knowledge of concussion. This approach could be most effective in helping the players to take more responsibility for their own health and well-being by self-reporting potential concussion symptoms, as physiotherapists are not allowed to enter the pitch without being given permission by the referee. There is also a need for more research on athlete's attitudes toward concussion to ensure that the results of this study are consistent across the other leagues. An intervention, which addresses the risks of playing through concussions as well as how concussions are assessed and managed, may be beneficial to players. Some players asked follow up questions after their interviews to try and gain more information. The downside to this type of intervention is that players then become aware of what factors impact their return to play and can attempt to deceive physiotherapists in order to return quicker. Another intervention could

be aimed at physiotherapist or chief medical officer knowledge and working to make sure they are following best practice guidelines for concussion management in soccer.

The results of this study indicated both strengths and weaknesses in concussion knowledge and attitudes of English soccer players. It is the first of its kind to assess these factors of players within the English Football Association. Generally speaking, players were aware of some of the common signs and symptoms of concussions, but still had some misconceptions. There were many discrepancies between knowledge, attitudes, and apparent behaviors of athletes. This study also brings to light the fact that survey responses may not be adequate when assessing attitudes of athletes in regards to concussions. Additionally, results from this study indicate where the deficiencies are in player knowledge and begins to identify the attitudes and behaviors that players have regarding concussions as well as their management and treatment.

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APPENDIX A

Limitations

- Not a random sample it is a directed and convenient sample
- Retrospective
- Bias of the Researcher

Delimitations

- Npower Championship Players
- One Team
- Over 18 years old

Assumptions

- All participants will use their own knowledge
- Participants will be honest
- Participants will understand all terminology
- Participants will stay focused during interview

Research Questions

- Can players correctly identify signs and symptoms of concussions?
- What misconceptions do players have about concussions?
- What is the player's level of concussion knowledge?
- What are the players attitudes surrounding concussions?
- What are the reporting rates and reasons behind reporting rates?

APPENDIX B

LITERATURE REVIEW

Concussions are one of the most controversial topics in sports medicine. They have been talked about since AD 850.¹ Rhazes, the great Muslim physician, was the first person to define a concussion in terms that can be currently identified.¹ Since that time, there has been an increase in concussion research that has led to more recognition of mechanism of injury, signs and symptoms, and establishment of return to play protocols.² A concussion is defined as a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces.² To gain a better understanding of concussions, you must first understand what is going on at a neurometabolic level.

A biomechanical force transmitted to the head may cause a neurometabolic cascade within the brain.³ The first process that occurs is a disruption of neuronal membranes, axonal stretching, and release of potassium.³ Potassium causes neuronal depolarization and increased release of excitatory amino acids glutamate, NMDA, AMPA, and kainite.³ After the excitation, there is a wave of neuronal suppression, which is result of the loss of excitatory neurotransmitters. In an attempt to reestablish ionic homeostasis, sodium-potassium pumps work overtime to try and remove the efflux of potassium that has taken place.³ This triggers an increased use of glucose and adenosine triphosphate (ATP) to keep the pumps working. The more severe the injury, the longer the increased metabolism may occur. The brain runs typically at near peak efficiency of oxidative metabolism so when it becomes damaged it must rely on other systems such as the anaerobic glycolysis to try and meet the increased ATP needs. Calcium is the reason for the oxidative system dysfunction as well as overall energy failure. Excess calcium is

sequestered in the mitochondria, which will result in dysfunction of the oxidative system and causing the body to use the glycolytic system.³ Magnesium crosses the synaptic cleft and causes the NMDA receptors to be unblocked and leading to a further increase of calcium within the cell.³ The problem is the glycolysis results in lactate and the lactate metabolism processes are decreased from the initial injury.³ The damage results in lactate accumulation leading to acidosis, membrane damage, alterations to the blood brain barrier permeability, and cerebral edema.³ There is also the problem of decreased blood flow up to 50% of normal.³ The decreased blood flow means that the body struggles to send excess glucose to the brain to try and compensate for the deficit. The period of decreased glucose availability occurs within 24 hours post injury and last for approximately 5 to 10 days.³ This may be part of the reason why symptoms and cognitive dysfunction tend to last between 5 and 10 days.³ Magnesium is responsible for maintaining cellular membrane potential and initiation of protein synthesis and levels are decreased following injury. Since magnesium levels are decreased, both oxidative and glycolytic generation of ATP is decreased and so the brain cannot repair itself as effectively. The axon becomes so disrupted that some of them go through apoptosis.³ Apoptosis is a process by which the cells absorb as much calcium as possible and go through necrosis to try and help restore homeostasis. There is neurofilament compaction, microtubule disassembly, axonal sweeping and then finally axotomy which is a severing of the axon resulting from swelling.³ This cellular death helps to restore ionic balance to the brain by destruction of the excess ions. The ionic shift helps resolve a number of the problems that are going on in the brain and help drastically with recovery. Once a

players' brain has healed they should be put through progressive exercise and then finally returned to play.²

The frequency at which concussions occur is another topic that has been debated. It is generally accepted that 1.6 to 3.8 million traumatic brain injuries occur each year in the United States.⁴ American, or Gridiron football, contributes the most to this number.⁵ In high school there are approximately 4.36 concussions per 1,000 athlete exposures.⁶ In college, there are approximately 8.61 per 1,000 athlete exposures.⁶ However, other sources say that amongst all 3 divisions of college and high school, the exposure rates are between .23 and .43 per 1,000 athlete exposures.^{5,7} Although football rates are typically high, soccer is a different from football because it is one of the only sports where you use your head as a part of the game.

In soccer, rates have been reported from .89 -1.9 concussions per 1,000 athlete exposures.^{8,9} The injury rates were 17.7 times high for a male players in games compared to practice.⁸ It was also found that 40.5 - 59.3% of concussions came from collisions heading the ball while 30.5 - 85.3% came from collisions with other players.^{7,10} Concussions represented 9.4% of all high school soccer injuries and 7% of all injuries in men's collegiate soccer.^{8,10} Concussions make up 21.7% of injuries to keepers compared to 11.1% of injuries to other players.⁷ This is most likely caused by the challenges and aggressive play around the box. Athletes are willing to sacrifice their bodies to try and put the ball into the goal and goalies are frequently entering into aerial battles to try and gain control of the ball.¹¹ Also they spend time diving around the penalty box and after the ball while players are attempting to kick it, which puts them at even more risk. However, there is evidence that suggest that center-backs and strikers are the most likely

to sustain the majority of head injuries.¹² This is because most concussions occur while players are challenging for high aerial balls and these occur mostly occur around the half-way line and in the penalty box.^{11, 12} It is important that players are able to recognize the signs and symptoms of concussion so that they can protect themselves.

Every person presents differently with concussions, however there are some common signs and symptoms. Loss of consciousness is regarded as the classic sign of a concussion.¹¹ However, loss of consciousness is rarely seen in concussions and does not usually indicate the severity of the concussions although grading scales would have you believe otherwise because approximately 4 - 9% of concussions involve loss of consciousness.⁴⁻⁶ Considering that there are approximately 57,200 concussions every year in high school football alone, that would mean that only between 2,288 and 5,148 athletes lose consciousness from their concussions.⁶ Therefore, it does not make sense to weigh loss of consciousness more heavily than other symptoms in concussion assessment unless it is otherwise effecting the assessment of recovery. Loss of consciousness does not necessarily result in greater neuropsychological impairment when compared with patients who did not lose consciousness because in a study of patients admitted to the emergency room with loss of consciousness resulting from MTBI, there was no greater neuropsychological impairment for those who sustained LOC compared to those that did not.¹³ Also, since it does not occur very often, it is important that people understand that loss of consciousness is not required for a person to have a concussion. Loss of consciousness is only present in approximately 4-9% of all concussions.^{5, 14, 15} One of the most common symptoms of concussions is headache. Of athletes who are diagnosed with concussions, between 72% and 93% athletes reported having a headache.^{5, 14, 16} It is

important to realize that just because an athlete reports a headache does not necessarily mean that they have a concussion. Headaches are a nonspecific symptom that commonly occurs in sports and may not reliably suggest the need to remove players from games.¹⁷ There are a number of other symptoms that appear. Between 55-67% of athletes also reported some sort of dizziness, and between 55-59% reported confusion.^{5, 14} Headache, dizziness, and confusion are the top 3 most commonly reported symptoms.⁵ However, 59% of athletes report mental confusion and 48% report disorientation.⁵ Also, between 24 and 37% of athletes experience posttraumatic amnesia and an athlete who has posttraumatic amnesia is expected to have a slower recovery from the injury.^{5, 13, 15, 16, 18} Overall, symptoms tend to resolve in between three and seven days.^{15, 19} It is important that these signs and symptoms be recognized by athletic trainers, coaches, parents, or other medical staff that may be covering any sports events. However, athlete reported symptoms are not the only way to assess an athlete for a concussion.

One method for assessing concussion is called the Standardized Assessment of Concussion or SAC. The SAC was initially developed to provide clinicians with a more objective tool to assess athletes cognitive function immediately after injury and is built into the Standardized Concussion Assessment Tool 2 which is recommended for use by Third International Conference on Concussions.² The SAC is broken into 4 sections.²⁰ The sections are orientation, immediate memory, concentration, and delayed recall. Orientation is questions about the day, time and place. Immediate memory, a player is asked to repeat a series of 5 words 3 times. In the concentration test, the patient is asked to repeat a series of numbers in reverse order as well as the months in reverse order. The delayed recall score is asking the patient for the initial 5 words that were given to them.

The test was validated was in 2002 when McCrea et al. gave the SAC test to 91 concussed athletes 15 minutes, 48 hours, and 90 days post injury.²⁰ They found that athlete's scores dropped approximately 4 points between baseline and injury.²⁰ Also, it was the first study to identify the cognitive checkmark response of healing in concussion management. The checkmark response is that after injury, there is a decrease in cognitive processing but over time they will return to baseline.²⁰ It was found that injured subjects without loss of consciousness or posttraumatic amnesia displayed the fastest recovery.²⁰ The only problem with the SAC assessment is that it is not sensitive enough to manage concussions over a long period of time. In the same study, nearly all subjects without loss of consciousness or posttraumatic amnesia performed better than baseline within 48 hours.²⁰ Cognitive function is only part of the concussions assessment. Another commonly used assessment to assess motor function and coordination is the Balance Error Scoring System.

The Balance Error Scoring System (BESS) is one method for assessing postural stability after concussion.²¹ One of the reasons that it is so frequently used is because of the affordability. It is a measure that can be done by many people without the use of expensive equipment such as force plates or the Sensory Organization Test.^{21,22} The BESS test requires the person to stand in three different positions on firm ground and then on a foam pad. The three stances are single leg stance, double leg stance, and tandem stance. The subject stands in each position for 20 seconds with their hands on their hips and their eyes closed. They are then scored on a number of criteria. These include, lifting hands off the hips, eyes opening, falling, moving the hip into excessive flexion or abduction, lifting the forefoot or heel, or remaining out of the testing position

for more than 5 seconds.²³ The maximum number of errors possible is 10 per stance.²⁴ If a person makes multiple mistakes at once, it only counts as only one error.²⁴ That makes the total score out of 60 with 0 being the best.²⁴ However, the average person's baseline score is between 8 and 12 errors.²³ After concussion, the average score is 17 errors with a range from 15 to 19.²³ The stance that had the least amount of errors was the firm ground double leg stance.²⁵ Although there have been differences found, the question arises on the validity and reliability of the test. It was found that the single leg firm, tandem firm, and foam double leg stance measured individually were all valid.²⁴ However this was only true if the same person measured the test every time. Overall, the intrarater reliability ranged from .5 to .97.^{24,25} The interrater reliability ranged from .5 to .92.^{23,24} However, even though the numbers appear to be questionable, the Balance Error Scoring System has an overall moderate to good reliability.²³ It is just important that when using it in a clinical setting, the same person administer the test for a patient to try and achieve the highest reliability. However, it is not just the person administering the test that can impact the results of the BESS. Most assessments of postural stability occur on the field after the participant has been aerobic or anaerobically exercising. The muscles are already fatigued and so that affects the person's postural stability. It appears that the effects of fatigue appear to persist between 8 and 13 minutes after they stop exercising.²⁶ Therefore, before performing the BESS test on an injured athlete, it is important to let them rest so that muscle fatigue does not affect their score and performance. Another factor that could impact a player's BESS performance is distractions. Players who are being tested on the sidelines of a game immediately after the injury have the distraction of the game, the players, and the crowd noise. This is

compared to the baseline assessment, which typically takes place in a controlled environment like the athletic training room or an athletic trainer's office. It was found that healthy athletes who performed significantly worse on the single leg foam stance on a sideline environment compared with a control.²⁷ It is important to consider all these factors when evaluating the balance of an athlete and understanding that to make sure that the test is reliable, reassess them in a controlled environment to limit the effect of distractions and fatigue.

Another instrument used for assessing concussions are computerized neuropsychological tests. Two commonly used computerized tests are ImPACT and HeadMinder.²⁸ The shift recently has been towards computerized neurocognitive assessment to evaluate the athlete's status after injury.²⁸ It is important to remember that the concussion assessment should be a battery and not just athlete's symptoms or the computerized assessment to determine when an athlete should return to play.²⁸ ImPACT measures composite verbal memory, composite verbal memory, visual motor speed, reaction time, impulse control, and includes and symptom inventory.²⁸ HeadMinder measures simple reaction time, complex reaction time, and processing speed.²⁸ There are some pencil-and-paper neurocognitive assessments, but those are becoming less frequently used though because of the ease of use of computerized tests.^{29, 30} A computerized test can be given to a large group of people simultaneously and report scores are generated for the clinician. It was found that ImPACT used alone is 79.2% sensitive to concussions one day following injury.²⁸ However, it increases the sensitivity to 91.7% when combined with postural control and symptoms assessment.²⁸ HeadMinder is 78.6% sensitive.²⁸ However, when it was coupled with postural control

and a symptoms assessment, it became 89.3% sensitive.²⁸ Those two were the most sensitive to the effects of concussion. They were followed by symptom assessment alone with 68%, postural control alone 61.9%, and pencil-and-paper with 43.5%.²⁸ Pencil-and-paper tests appear to not be sensitive enough to detect concussions among athletes. However, none of the tests will be useful if the athlete does not put full effort into their baseline assessment. If an athlete is suspected of not putting full effort into the assessment, an effort battery or a retest should be given.³¹ This could allow athletes to return to play while still symptomatic and predispose them to further injury. Symptoms are one of the most frequently used measures of concussion severity. The problem is that athletes have different motivations on answering symptoms questions. This will be addressed later on, but it is important to recognize that the athlete's symptom score is very subjective. It is based on what the athlete is willing to tell the athletic trainer. The sensitivity of assessment tools ranges from 43 to 80% when used in isolation.²⁸ Therefore, it is in the best interest of the athlete to use multiple methods of assessment to assess concussion status in an athlete.³² Once an athlete has been diagnosed with a concussion, there are a variety of grading scales that can be used to indicate the severity of a concussion.

There are 3 primary scales used to grade concussions.³³ They are the Cantu Evidence-Based Grading System for Concussion, American Academy of Neurology Practice Parameter Grading System for Concussion, and the Colorado Medical Society Grading System for Concussion.^{33,34} Each grading scale has its own main focus and each has its own strengths and weaknesses. The Cantu Revised grading scale and the American Academy of Neurology grading scales are referenced in the National Athletic

Trainers' Association Position Statement on the Management of Sport Related Concussion.³⁵ The Cantu revised grading scale is broken into 3 grades.³⁶ A grade 1 concussion is posttraumatic amnesia lasting less than 30 minutes and any symptoms lasting less than 24 hours. A grade 2 concussion is loss of consciousness lasting less than one minute, posttraumatic amnesia longer than 30 minutes but less than 24 hours, and symptoms lasting between one and seven days. A grade 3 concussion involves loss of consciousness lasting more than 1 minute, post traumatic amnesia over 24 hours, and symptoms lasting more than 7 days.³⁶ What makes the particularly effective is the use of the duration of symptoms and putting loss of consciousness on the same level as posttraumatic amnesia. Many grading scales still value loss of consciousness as more severe in determining outcome compared to posttraumatic amnesia. However, not universally agreed upon, amnesia is generally a better predictor of concussion severity so the fact that Cantu uses both as a measure of severity is one of the strengths of the grading scale.^{13,34} The American Academy of Neurology's Practice Parameter Grading System for Concussion is also broken into 3 different grades. Grade 1 is transient confusion, no loss of consciousness, and concussion symptoms or mental status abnormalities resolve in less than 15 minutes. A grade 2 concussion includes transient confusion, no loss of consciousness, and symptoms or mental status abnormalities lasting more than 15 minutes. Grade 3 is any loss of consciousness whether its seconds or minutes. The weakness with this grading scale is the use of loss of consciousness as the sole determinant of severity. Clinically, loss of consciousness is a very severe symptom for many reasons. Athletes who lose consciousness may stop breathing or go into cardiac arrest, which are both life threatening conditions. However, in terms of concussions,

patients who experience loss of consciousness have fewer post concussion symptoms compared to those with posttraumatic amnesia.¹⁸ The last grading scale is the Colorado Medical Society Grading System for Concussion.³⁷ A grade one concussion is defined as confusion without amnesia or loss of consciousness. Grade 2 is confusion with amnesia and no loss of consciousness. Grade 3 is once again, any loss of consciousness. This grading scale shares some of the same problems that the AAN grading scale has. It is positive that amnesia is recognized as a serious symptom. However, loss of consciousness is again the sole determinant of concussion severity. In humans, there is no definitive test to be able to determine how long the neurometabolic cascade will affect the brain. Therefore, you cannot predict the duration of symptoms that the athlete will experience. Due to this fact, a final severity or grade of the concussion should be postponed until the athlete is completely symptom free.³⁶

Another topic that has come under question in concussion management is about chances of sustaining a repeat concussions and the severity of those repeat concussions. After sustaining an initial concussion, players should be removed from play until asymptomatic and then have a stepwise return to play.² However, upon returning to play, the athlete once again has the chance of sustaining a concussion. Players with a history of three or more previous concussions are three times more likely to sustain another concussion than those with no history.¹⁵ There is also an increased risk for players with a history of two concussions and one concussion but their risk was not as significant as for those with a history of three concussions. This means that players are more likely to sustain concussions after they receive their first but this risk is not as high as for players who have received three or more. The risk of sustaining a concussion is 5.8 times high for

individuals with a history of concussion during the previous 5 years compared to those with no concussion history.³⁸ Of players who suffer repeat concussion injuries in the same season, 91.7% occur within the first 10 days of the initial injury, and 75% occurred within the first seven days of injury.¹⁵ So the initial seven to ten day window of repeat injury is something that all athletic trainers should be wary of because most repeat injuries occur during that time.³⁹ This goes back to the neurometabolic cascade that goes on in the brain during which ionic balance as well as blood flow are decreased for approximately seven days.³ Also, athletes with a history of multiple concussions experienced a longer recovery.¹⁵ However, previous history of concussion was not correlated with loss of consciousness at following concussions.³⁸ Although athletes may not suffer loss of consciousness from repeat concussions, the range for repeat injury following a concussion at 3 to 5.8 times.^{15,38}

One of the problems with concussion management is that athletic trainers cannot always do anything to help manage the injury unless athletes report it. Approximately 52.7% of high school gridiron football players who reported sustaining a concussion during a game did not report the injury.⁴⁰ When athletes do report concussions, 76.6% of them report to a certified athletic trainer.⁴⁰ The reasons that athletes do not report concussions are varied. The most common reason was that 66.4% of athletes did not think that the injury was serious enough to warrant medical attention, 41% that did not want to leave the game, and 36.1% of athletes did not know it was a concussion.⁴⁰ This raises some concerns. The fact that over 1/3 of athletes do not recognize the signs and symptoms of a concussion is a staggering fact. Another study found that 56% of athletes had no concussion knowledge or the consequences of playing through a concussion.⁴¹

That combined with the fact that 66.4% do not think that it warrants medical attention poses some serious concerns. Although these numbers are across a larger population, there are some soccer specific numbers. Approximately 15.6% of male soccer players have experienced a direct blow to the head that resulted in dizziness.⁴¹ Also, 35.5% of soccer players have reported sensory, somatic, or cognitive symptoms, which include seeing stars, nausea, amnesia, or prolonged headache.⁴¹ Of that 35%, 51% continued to play and did not report the injury.⁴¹ This includes 35% that had a headache and dizziness.⁴¹ There is clearly a need to improve athlete knowledge and understanding of concussion amongst all athletes. On a preparticipation survey amongst youth athletes, 8.5% reported having been diagnosed with a concussion but when asked about concussion symptoms, 55% reported at least one prolonged symptom following an injury to the head.⁴² Of the 55% that reported symptoms, between 86.4% and 92.7% did not report having a history of concussion.⁴² Athletes are continuing to put themselves at risk by not knowing enough about concussions. However, high school soccer players who are more educated about concussions are more likely to report their concussion symptoms to either their coach or athletic trainer.⁴³ Also, players need to take more responsibility for their well being and the well being of their teammates. It is estimated that 76% of players suspected that a player with a concussion had stayed on the field and 31% of those believed that players had been pressured to play.⁴⁴ As a medical community, we should be more concerned about athlete knowledge and encouraging them to protect themselves both on and off the field. It is true that we want them to be successful, but their success should extend both on and off the field.

Another population that should know more about concussions is adults and parents. In many high schools, there is not an athletic trainer present.⁴⁵ Therefore, it becomes the responsibility of the athletes, coaches, and parents to be able to detect possible concussions amongst youth athletes and know what to do with them.⁴⁶ In a study of Canadian youth hockey parents, 5% did not know how a player could sustain a concussion or they thought that loss of consciousness was required for the player to have a concussion.⁴⁷ Also parents were only able to recognize an average of two symptoms and only one sign of a concussion.⁴⁷ Another scary statistic is that 20% of parents thought that a concussion was treated with physician-prescribed medications or some sort of physical therapy.⁴⁷ Now it is not necessary for a parent to be able to go through a SAC test or perform a BESS test on an athlete but they should be able to at least recognize the signs and symptoms and know how to at least handle initial management. When asked if an athlete should return to play after sustaining a serious hit to the head, over 30% said that an athlete could return to play the same day.⁴⁶ An athlete who is symptomatic should never be allowed to return to play because it could predispose them to a more serious injury such as second impact syndrome or post concussion syndrome.³⁵ One of the most commonly missed symptoms of concussions assessment is sleep disturbances.⁴⁶ The advantage of youth athletes is that parents are able to monitor this symptom because the athletes typically live with them. Although it is not one of the most commonly reported symptoms, athletes may experience this symptom and could help indicate need for further medical assistance. Obviously there is still a lot of confusion surrounding athletes. When the general public is asked about history of concussion, 28% reported a history of concussion but over 55% reported not having sustained a brain or head injury.⁴⁸ They

also reported that someone who sustained a concussion should be kept awake.⁴⁸ This demonstrates that there is still significant uncertainty regarding concussion recognition and management.⁴⁸ They need to realize that loss of consciousness is not required for an athlete to have sustained a concussion.⁴⁴ Although parents should be able to stand up for their athletes, it calls into question the knowledge and perception of concussion with coaches.

In many schools, an athletic trainer or a physician cannot be present at all practices so coaches are responsible for the initial assessment of athlete's injuries. It is important that coaches are objective as possible and understanding when it comes to athlete's injuries. This becomes especially true when discussing concussions especially because they are considered an "invisible injury".⁴⁹ Some of the signs are readily visible to coaches and medical staff such as balance problems or confusion. However, many of the symptoms have to be reported by the player and because of that, coaches may be less likely to believe them.⁴⁹ This is compared with an ankle sprain where there is visible swelling and bruising. Coach's knowledge of concussion is varied. In one study, when asked about concussion management, between 79 and 92% of coaches knew how to immediately manage a concussion.⁵⁰ However this number was unusually high. This means that if a player reports or demonstrates signs or symptoms, it is likely that the coach will pick up on them and refer them to the correct medical professional. This is an unusually high knowledge base for coaches and may have been helped by the increase in concussion coverage by the media or the difficulty of the questions. In another study, 60% of coaches could correctly identify the symptoms of amnesia, confusion, dizziness, headache, and loss of consciousness as concussion related.⁵¹ Of these coaches, 42%

thought LOC was required for a concussions to occur, 32% did not think a grade one concussion required removal from competition, and 26% would let a symptomatic athlete return to play.⁵¹ Although coaches may be able to recognize symptoms, they may not correctly manage the injury because of the misconceptions that are still present. However, 43% of coaches also believe that all athletes recover at the same rate from concussions.⁵⁰ Although there may have been some confusion with the question, this is untrue. There is no cookbook recipe for managing concussions and each one is unique. It is important that not just coaches but parents as well be made aware of this so that players are not rushed back into play while still symptomatic. It was also found that coaches who had sustained a concussion during their athletic careers were more likely to identify players who had sustained a concussion.⁵⁰ When asked about which sources provided the most helpful information, coaches reported that healthcare professions were 55% helpful followed by coaching conferences with 53%.⁵² Therefore, we need to make sure that all healthcare professionals are well educated on concussions. Also, that they are taking the time to have those conversations with coaches to help keep athletes as safe as possible. We also need to be sure that we have reputable people attending and speaking at coach's conferences. That way they are getting positive information and being able to ask questions of someone who truly understands concussions. It is also important to know that coaches understand that players are unwilling to report concussions.⁵² Approximately 41% of coaches understand that athletes rarely report concussions and 51% believe that players sometimes report concussions.⁵² This means that from a coaches perspective, 92% of players have some sort of reluctance to report concussions. The reasons are most common reasons for this are that athletes are not recognizing

symptoms as concussions and they did not want to leave the game.⁴⁰ However, there is also the possibility that players are unwilling to talk to coaches about injuries.⁵² It is important that athletes are able to discuss their injuries and potential concussions with coaches and those coaches are willing to listen to the athletes and to medical personnel. In one situation in Canada, a coach overruled a team physical on a return to play decision and when confronted by the physician, responded with who needs a doctor anyway.⁴⁹ This was combined with the fact that 22 of 34 minor league coaches refused to have their teams watch a video about concussion prevention because they thought it would make their players less aggressive.⁴⁹ This raises a concern about whether or not coaches are looking out for the best interests of the athletes or just their success. It is typically seen in sporting culture that athletes who play through injury are tough and stronger athletes.⁴⁹ However, the main focus is that athletes should not be trying to play through concussions. The risks are too severe and they could be putting their lives at risk by doing so.

In the United Kingdom, there are over 4 million soccer players.⁵³ Participation rates are similar across all socioeconomic groups with more males than females playing.¹² Almost half of adult males in the UK are, or have been regular footballers meaning they play multiple times a month.¹² The British soccer culture has been growing and evolving over the last 25 years. From the mid 1960s to the late 1980s, football stadiums were dominated by intoxicated, disorderly fans known as “Hooligans”, a term used to describe any deviant behavior associated with soccer.^{54,55} Despite its existence in multiple countries, “hooliganism” has been called the “English Disease”.⁵⁵ It was routine for there to be riots, fights, and occasional deaths surrounding soccer matches.⁵⁴ Hooligans were known to have intense, complex and reflexive rituals surrounding their

team, which left the most devoted with psychological and physical pain.⁵⁴ A majority of it was considered to be a manifestation of a wider social problem of alienated young males demonstrating their frustrations in an anti-social and violent way.⁵⁵ Although not all fans are this extreme about their clubs, there is a sense of loyalty surrounding each club which bring supporters together.⁵⁶ Less than 15% of all local fans have supported multiple teams, most attend all home matches, and many travel to six or more away matches.⁵⁶ For most fans, football spectatorship is a key feature to their self identity and is tied into their notion of community.^{56,57} For some people, being a fan of a club can give meaning to their life.⁵⁸ The decline of hooliganism all culminated with the death of 96 Liverpool fans known as the Hillsborough Stadium disaster.⁵⁴ Events such as these, are said to have spurred the change into what is now referred to as the “new” England style of football.⁵⁴ This change came with the establishment of the Football Licensing Authority, which was designed to monitor stadium development, manage and discipline football crowds, as well as promote crowd safety.⁵⁴ This organization frustrated quite a few of the “traditional” supporters of English football. They argued that the organization was destroying the climate within football stadiums changing it from a chaotic space to a more peaceful and ordered space.⁵⁴ The new space brought in a new crowd of supporters who were previously not attending football matches. This change began to draw women, the middle to upper class, as well as families. This was important because this type of supporter was more likely to spend money on merchandise and provide more financial support and stability to the club.⁵⁶ This was also accompanied by an adoption of the English Premier League to a more American model of sports.⁵⁹ This was the coverage of matches by live television.⁵⁹ The latest domestic Premier League broadcasting deal from

2010 to 2013 is worth £1.782 billion or approximately \$2.794 billion.⁶⁰ This is the most lucrative broadcasting deal in the world and gets most of its funding from sponsorship.⁵⁹

⁶⁰ This was influential to the game because it provided clubs with increased revenue. The financial turnover for clubs in the Premier League has increased by 900% from £170 million to £1530 million or from approximately \$275 million to \$2.474 billion.⁶⁰ The financial turnover for clubs in the Championship has increased by 179% from £186 million to £329 million or from approximately \$300 million to \$531 million. Currently, there is more money in football than ever before.⁵⁶ The Premier league has managed to sustain 17 years of uninterrupted pre-tax losses while simultaneously being lauded as the most successful soccer league and business in the world.⁶⁰ The Premier League pays the highest soccer wages in the Europe.⁶⁰ The wage bill in 2006/2007 was €1.440 billion.⁶⁰ The next highest league was La Liga in Spain which paid €822 million.⁶⁰ The increased wages made the Premier League the target league for many players. This made it the highest quality league football in Europe and the most glamorous in terms of the celebrity players it could attract.⁶⁰ The success of the league has continued with the increased fan support. During the 2007/2008 season, stadiums operated at an average 93% capacity with over 13.7 million fans attending matches.⁶⁰ The Championship which is the second-highest division in the English football league system, was the fourth best attended league in Europe after the Premier League, The Bundesliga of Germany, and La Liga in Spain which again demonstrates the strength and depth of English soccer.⁶⁰ However, this increased revenue has come with its downfalls. Total debt in the Premier League has reached £2.47 billion and £289 million in the Championship.⁶⁰ This debt is split among some of the top clubs in the Premier League. Manchester United has a debt of £605

million, Chelsea £620 million, Arsenal £268 million, West Ham United £142 million, and Fullham £167 million.⁶⁰ What this means is that English Football is almost entirely dependent on the willingness of individual owners to sustain losses and underwrite debt and pay related interest payments which would be intolerable and unsustainable in any other industry.⁶⁰ The reason the league has so much debt is because of expenditure on players. This is due to the relationship between expenditure on players and sporting success.⁶⁰ In the English Premier League, there are no restrictions on player contracts and salaries.⁶⁰ This means clubs are free to spend extravagant amounts of money to hire and retain the best playing talent which is driving an inflationary spiral into players wages and transfer fees, which are costs paid by teams for the transfer of players.⁶⁰ After all of this, it is generally accepted that English football is a not-for-profit industry for its owners. The only people who make money in the Premier League are stakeholders, players, television companies, and merchandising companies.⁶⁰ Another unique aspect of European soccer is the idea of promotion and relegation.⁵⁸ How this works is, over the 38 game season of the premier league, teams are awarded points based on the results they achieve. They are awarded three points for a victory, one for a draw and none for a loss.⁶¹ At the end of the season, the three teams with the least amount of points are relegated or demoted to the Championship.⁶¹ If there is a tie among these three teams, the relegation is decided upon goal difference, which is the difference between goals scored and goals conceded.⁶¹ In the Championship, the top two teams are automatically promoted to the Premier League.⁶² Teams that finished third through sixth compete in a playoff system to decide who will be the final team to be promoted.⁶² Another unique rule within professional soccer that is unusual from American sports is the substitution rules. In

professional soccer, teams are allowed three substitutions across the 90 minute match.⁶² Substitution rosters must be given to the referee prior to the start of the match and once a player has been substituted off the field, they may take no further part in the match. It is also important to know the role the referee plays in injury management during a soccer match. Play is allowed to continue until the ball is out of play if a player is only slightly injured in the opinion of the referee.⁶¹ If a player appears to be seriously injured, the referee may immediately stop play.⁶¹ After questioning the injured player, the referee may authorized one or at most two doctors to enter the play to assess the injury and arrange the player's safe and swift removal from the pitch.⁶¹ Stretcher-bearers may only enter the field of play with a stretcher after a signal from the referee.⁶¹ Any player bleeding from a wound must leave the field of play and may not return until the fourth official is satisfied the bleeding has stopped and a player is not allowed to return to the pitch with blood on their clothing.⁶¹ Also, the fourth official and the center referee are the only ones who allow the athlete to return to the field after being removed from play.⁶¹ The only exceptions to these rules are if a goalkeeper is injured, multiple players on the same team are injured, or if a severe injury such as a swallowed tongue, concussion, or broken leg.⁶¹ So although medical personnel are available at all matches, it is up to the referee to determine whether or not they are allowed to enter the field of play and evaluate injured players.

There are approximately 270 million soccer players world wide.⁵³ This means there is increased number of injuries due to the number of participants. Soccer poses a unique concussion risk to athletes in that it is the only sport where the head is purposefully used for controlling, passing, and scoring. The incidence of football injuries

in adult male players is estimated to be between 12 and 35 per 1000 game hours and 1.5 to 7.6 per 1000 hours of practice.⁶³ Head injuries make up between 4-22% of all injuries in professional soccer.⁶⁴ Concussions make up approximately 11% of injuries in high school soccer.⁶⁵ There is an estimated 1-2 concussions per team per season in professional soccer.^{11, 12, 64} According to a study of collegiate men's soccer players, the head and neck are the second highest body area at risk for injury following the lower extremity with approximately 1.08 head injuries per 1000 athlete exposures.⁶⁶ In the Norway and Iceland's professional leagues, there were approximately 1.7 head injuries per 1000 player hours.⁶⁷ In college soccer, 69% of concussion occurred in games with the majority of them happening after the 60th minute of play.⁶⁸ Another study of the Swedish Premier league found that concussions made up 1% of all injuries, but the players who sustained them missed an average of 27 days.⁶⁹ There was also a study done on regional differences in injury incidence in European football. They found that amongst 25 of the top teams from England, Scotland, France, Netherlands, Belgium, Germany, Italy, Portugal, and Spain that across 773,365 exposure hours and 9 seasons, there were 46 concussions.⁷⁰ The higher and more competitive the level of play, the more frequent the incidence of concussion.^{11, 71} So the fact that concussion incidence rates are so low among the elite teams is surprising. This may be due to the misconceptions players have, lack of reporting, or lack of knowledge. Also, male footballers have around a 50% chance of sustaining at least one concussion during a 10-year playing career.¹² This is of concern because athletes who sustain one to three concussions are three to six times more likely to sustain another concussion.^{15, 38} When evaluating the mechanism of injury for concussive injuries, there were a variety of mechanisms.^{66, 71, 72} The most

common mechanism is contact with another player.⁶⁶ When contacting another player, 41% came from elbow to head contact and 33% came from head to head contact.⁶⁷ Most of these types of challenges come during heading challenges for the ball.^{67,71} However the evidence surrounding heading the ball is inconclusive. The vast majority of headed balls occur at velocities around 65km/h or 40 mph.¹¹ A ball travelling at 65 km/h would impact a solid object for 10.23msec at a force of 850 to 912N.¹¹ The estimated necessary concussive force is 22N/sec which has been highly debated.¹¹ The forces from a 65km/h ball are between 12.4 and 13.7N/sec which is well below concussive levels.¹¹ However it does raise the question of whether subconcussive blows cause long term neurological deficits.⁷³ The evidence is still controversial. Guskiewicz et al. found that neither participation in soccer nor concussion history was associated with impaired performance on neurocognitive function in collegiate soccer players and Kaminski et al. found no relationship between heading and neuropsychological test performance.^{74,75} Also, Brogilio et al. found no significant changes in postural control following an acute bout of heading.⁷⁶ This is conflicted by the research of Rutherford et al. who suggested that there is a relationship between heading frequency and head injury.⁷⁷ Also Matser et al. found that neurocognitive impairment is caused by concussions and headers.⁷⁸ Witol and Webbe demonstrated that players with highest heading exposure rates had poorer performance on neurocognitive testing.⁷⁹ The evidence surrounding headers in soccer is controversial with some finding cognitive impairments and others not. Another predictor of player's likelihood of receiving a concussion is their playing style. The more the player heads the ball the more likely they are to receive a concussion while challenging for it.⁷⁷ The number of headers performed varies by position played. However, center

backs and center forwards are the most likely to sustain a concussion because they are most frequently challenging for the ball in the air.⁷⁷ This can change based on the playing style, players, and formation of a team. However, there are two areas of the field that are especially dangerous. These areas are the penalty box and the midfield line.^{11,71} These areas have the highest risk for a variety of reasons. The penalty box has players competing for crosses, corner kicks, and goalies rushing forward.¹¹ Players who are trying to score will be attacking towards the goal and the goalie will be coming out with fist to try and punch and clear the ball. The midfield is also dangerous because it is where players compete for punts, goal kicks, and clearances.¹¹ However, given all this information there still seems to be little to no assessment of player concussion knowledge in English soccer.

A study was done on Italian football player's knowledge of concussions. Although Italian soccer is not the same as English soccer, this was one of the only studies that focused specifically on concussions and athlete knowledge. 303 Athletes were surveyed with an 16.8 (\pm 3.0) years old and had 8.9 (\pm 4.9) years of experience with 37% being defenders, 28.7% mid-fielders, 21.5% strikers, and 12.5% keepers.⁸⁰ The study found that 5% of athletes had a history of one concussion.⁸⁰ The athlete's previous symptoms lasted approximately 3 days and they were removed from play for 2.5 days.⁸⁰ Over the course of the season, 10% of athletes sustained a concussion.⁸⁰ Of those that sustained a concussion, 62% did not report the injury.⁸⁰ When asked why they did not report the injury, 94% did not think that the injury was serious, 88% said concussions were part of the game, 66% did not know it was a concussion, and 66% did not want to be removed from the game or practice.⁸⁰ Of the athletes that reported their concussions,

38% told coaches, 22% told parents, and 22% told the physiotherapist.⁸⁰ These statistics are alarming. However, they match up with other literature that has already been presented about reporting rates. Athletes are reluctant to report concussions and accept them as a consequence of playing the game. This leads to most concussions being undiagnosed and untreated. It also puts the athlete at risk for further injury.

Another study was done analyzing sport concussion knowledge in the UK general public. The seriousness of sport concussion was underestimated.⁸¹ Most participants rejected the idea of increased vulnerability and likelihood of re-injury following a concussion.⁸¹ The UK general public also lacked knowledge surrounding injury mechanisms and recovery assessment.⁸¹ They also felt that the injured individual was the best source to evaluate recovery progress, even though it was acknowledged that awareness of injury effects might be limited and that subjective feeling of recovery was not to be equated with objective recovery. Also, a person's experience with sport concussion had no influence on their knowledge.⁸¹ They also found there were general misconceptions surrounding unconsciousness, memory and recovery.^{81, 82} From this information it shows that the UK general public has limited knowledge and many misconceptions about sport concussions. Also that injury experience has little influence on knowledge. From this we can imply that amateur players may not have enough correct knowledge to self-diagnose concussions and take appropriate action.⁸¹ When players are unable to assess themselves it falls on the shoulders of the physiotherapists and team physicians to assess them.

The people responsible for medical treatment of English footballers are team physiotherapists and team physicians. In the Premier League, Club Medical Officers

must complete and Advanced Resuscitation and Emergency Aid course on the acute management of head injury.⁸³ However, they are given little formal advice on how to assess recovery and return to play of concussed athletes.⁸³ After a high profile injury in 2007, the English Football Association clarified its recommendations stating that fixed periods of rest following concussion should not be used.⁸³ However, the club medical officer or a neurological specialist should determine when a player is fit enough to return.⁸³ The problem is that here is no guidance on how to recognize or assess the signs or symptoms.⁸³ An assessment of the English Football League found that 27.8% of the Club Medical Officers were unaware of the 2008 Zurich Concussion Statement.⁸³ The amount of preseason cognitive assessment was dependent on the level of the league. There were 44% of the Premiership teams who carried out a preseason cognitive assessment on their entire squad.⁸³ In the Premier League, 33% of teams routinely used ImPACT, and only one team in League 2 used another computerized assessment.⁸³ Of all teams, only 11.1% routinely completed a preseason symptoms score.⁸³ Following injury, only 48% of teams who were aware of the Zurich consensus routinely used a postconcussion SCAT.⁸³ The SCAT was not regarded as an essential part of the assessment by Premier League teams and was only considered of value by less than one tenth of clubs in the remaining leagues.⁸³ For players diagnosed with concussion, 44% of teams regularly enforced a rest period that did not meet with Zurich guidelines.⁸³ The results of this study indicate a severe lack of knowledge of medical teams who are treating elite player's concussions. Although the majority of teams knew about the guidelines, less than half actually followed them.⁸³ Most teams relied on the subjective judgment or symptoms reported by players which are both subject to external pressure

from either the manager or player's desire to return and hiding symptoms.⁸³ The results of the study indicate that management of concussion in professional football needs a consistent approach that is similar to the internationally recognized standard of care.

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APPENDIX C

IRB FORMS

Research Compliance Combined Cover Page
Georgia Southern University
Application for Research Approval

Investigator Information:		
Name of Principal Investigator: Joshua Williams	Phone: 253-720-7422	For Office Use Only: Protocol ID: _____ Date Received:
Email: Jw06849@Georgiasouthern.edu	<input type="checkbox"/> Faculty; <input type="checkbox"/> Doctoral; <input type="checkbox"/> Specialist; <input checked="" type="checkbox"/> Masters <input type="checkbox"/> Undergraduate	
Department Name and PO Box:	Health and Kinesiology Campus Box 8076	
Name(s) of Co-Investigators: Thomas Buckley, Ed.D. Jody Langdon, Ph.D. Jim McMillan, Ed.D.	Phone: (912)-478-5268 (912)-478-5378 (912)-478-1926	
Email addresses: tbuckley@GeorgiaSouthern.edu jlangdon@GeorgiaSouthern.edu jmcmillan@GeorgiaSouthern.edu	<input checked="" type="checkbox"/> Faculty; <input type="checkbox"/> Doctoral; <input type="checkbox"/> Specialist; <input type="checkbox"/> Masters <input type="checkbox"/> Undergraduate <i>(If multiple: identify by initial letter behind name. E.g., F for faculty)</i>	
Department Name and PO Box: Health and Kinesiology PO Box 8076		
Personnel and/or Institutions Outside of Georgia Southern University involved in this research (Attach training certification): None		
Project Information: (Note: funded project titles must match grant title)		
Title: Concussion Knowledge and Attitudes in English Football (Soccer)		
Brief (less than 50 words) Project Summary: The purpose of this study is to assess English soccer player's knowledge and attitudes surrounding concussions. Players will fill out pen and paper surveys. Then all athletes will be selected for 15-30 minute semi-structured interviews which will look to gain a deeper understanding of the players.		
Compliance Information:		
<i>Please indicate which of the following will be used in your research: (application may be submitted simultaneously)</i>		
<input checked="" type="checkbox"/> Human Subjects (Complete Section A: Human Subjects below)		
<input type="checkbox"/> Care and Use of Vertebrate Animals (Complete Section B: Care and Use of Vertebrate Animals below)		
<input type="checkbox"/> Biohazards (Complete Section C: Biohazards below)		
Project Start Date: 7/1/12 End Date: 6/1/13(no more than 1 year) Anticipated renewals <input type="checkbox"/> year 2 <input checked="" type="checkbox"/> year 3	Check one: <input checked="" type="checkbox"/> Student <input type="checkbox"/> Faculty/Staff	
Funding Source: <input type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Internal GSU <input checked="" type="checkbox"/> Self funded		
Funding Agency:	<input checked="" type="checkbox"/> Not Applicable	
Section A: Human Subjects <input type="checkbox"/> Not Applicable		
Number of Subjects (Maximum) 30	Date of IRB education completion: 9/5/2011 (attach copy of completion certificate)	
Purpose of Research: (Check all that apply)	Please indicate if the following are included in the study (Check all that apply):	

IRB Application Cover Page

<input checked="" type="checkbox"/> Publication/use in thesis/dissertation <input checked="" type="checkbox"/> Publication (journal, book, etc.) <input checked="" type="checkbox"/> Poster/presentation to a scientific audience <input type="checkbox"/> Completion of a class project <input type="checkbox"/> Presentation to GSU audience only <input type="checkbox"/> Presentation in outside of GSU <input type="checkbox"/> Results will not be published <input type="checkbox"/> Other	<input checked="" type="checkbox"/> Informed Consent Document <input type="checkbox"/> Greater than minimal risk <input type="checkbox"/> Research Involving Minors <input type="checkbox"/> Deception <input checked="" type="checkbox"/> Generalizable knowledge (results are intended to be published) <input checked="" type="checkbox"/> Survey Research <input type="checkbox"/> At Risk Populations (prisoners, children, pregnant women, etc) <input checked="" type="checkbox"/> Video or Audio Tapes <input type="checkbox"/> Medical Procedures, including exercise, administering drugs/dietary supplements, and other procedures
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Section B: Care and Use of Vertebrate Animals <input checked="" type="checkbox"/> Not Applicable	
<i>Purpose of use/care of animals:</i> <input type="checkbox"/> Research <input type="checkbox"/> Teaching <input type="checkbox"/> Demo only <input type="checkbox"/> Student participation in faculty work <input type="checkbox"/> Class Project <input type="checkbox"/> Exhibition <input type="checkbox"/> Display	<i>Please indicate if the following are included in the study:</i> <input type="checkbox"/> Physical intervention with vertebrate animals <input type="checkbox"/> Housing of vertebrate animals <input type="checkbox"/> Euthanasia of vertebrate animals <input type="checkbox"/> Use of sedation, analgesia, or anesthesia <input type="checkbox"/> Surgery <input type="checkbox"/> Farm animals for biomedical research (e.g., diseases, organs, etc.) <input type="checkbox"/> Farm animals for agricultural research (e.g., food/fiber production, etc.) <input type="checkbox"/> Observation of vertebrate animals in their natural setting

Section C: Biological Research <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Submitted Separately	
<i>Biosafety Level:</i> <input type="checkbox"/> Exempt <input type="checkbox"/> BSL 1 <input type="checkbox"/> BSL 2 <input type="checkbox"/> BSL 3	<i>Please indicate if the following are included in the study:</i> <input type="checkbox"/> Use of rDNA <input type="checkbox"/> Non native/invasive plant species <input type="checkbox"/> Last EHS lab safety inspection date: <u> </u> Attach Report <u> </u> <input type="checkbox"/> Last IBC biosafety lab inspection date: <u> </u> Attach Report <u> </u>

<i>Signature of Applicant(s): (PI, CoPI)</i> X <i>Joshua Williams</i>	<i>Date:</i> 5/1/12
<i>If student project please complete research advisor's information below (note that advisor signature must be received before application will be reviewed.):</i>	
Research Advisor's Name: Thomas Buckley	Advisor's E-mail: Tbuckley@Georgiasouthern.edu
Advisor's Phone: (912)-478-5268	Advisor's Department: Health and Kinesiology- Athletic Training P.O. Box: 8076
If student project - Signature of faculty member who is responsible for the student conducting research. If faculty project - Signature of department head or chair.	
By signing this cover page I acknowledge that I have reviewed and approved this protocol for scientific merit, rational and significance. I further acknowledge that I approve the ethical basis for the study.	
<i>Signature of Committee Chair/Research Advisor (if student) Department Chair(if faculty):</i> X <i>Thomas Buckley</i>	<i>Date:</i> 5/1/12

Please submit this protocol to the Georgia Southern University Research Compliance Office, c/o The Office of Research Services & Sponsored Programs, P.O. Box 8005. The application should contain all required documents specific to the committee to which you are applying. Questions or comments can be directed to (912)478-5465 or IRB@georgiasouthern.edu Fax 912-478-0719.

For optional email submission: Save the application forms to your computer. Complete the forms and name them beginning with your last name and first initial. Email the entire submission package to IRB@georgiasouthern.edu in a single email. Original signature pages may follow by mail or fax. (Signatures located on cover page, certification of investigator responsibilities and last page of application where certifications required.)

IRB Application Cover Page

GEORGIA SOUTHERN UNIVERSITY INSTITUTIONAL REVIEW BOARD**INSTRUCTIONS FOR PREPARATION OF PROPOSAL NARRATIVE**

Instructions: *Please respond to the following as briefly as possible, but keep in mind that your responses will affect the actions of the Board. Clearly label your responses in sections that correspond to the specific information requested. The Narrative should include a step by step plan of how you will obtain your subjects, conduct the research and analyze the data. Make sure the narrative clearly explains aspects of the methodology that provide protections for your human subjects. You may insert your responses in each section on this page in bold text, leaving a space between the question and your answers. Narrative should not exceed 5 pages.*

Personnel.

Jody Langdon Ph.D. will be involved with research design, data analysis, data discussion, and interpretation of data. Jim McMillan Ed.D. will be involved with research design, interpretation, and data discussion.

Purpose.

Soccer is the most popular sport in the world with over 265 million players worldwide and four million players in England alone (FIFA). In England, participation rates are similar across socioeconomic groups with more males than females overall

(Rutherford et al 2003). The incidence of soccer injuries in adult male players is estimated to be between 7.6 and 35 per 1000 hours of play (Dvorak et al. 2000). Of all injuries in soccer, head injuries make up between 4-22% with concussions contributing approximately 11% (Barnes et al 1998, Yard et al. 2008). An adult who has played soccer for 10 years has a 50% chance of sustaining a concussion (Barnes et al. 1998). This poses a risk to the athletes because once an athlete sustains a concussion, they are more likely to sustain another and it is more likely that the following injury will result in slower recovery and worse symptoms (Guskiewicz et al. 2003). At the elite levels in Sweden, players who sustained concussions missed an average of 27 days or about 10% of the club season and any additional international play (Hägglund et al. 2009).⁸ Concussions that are causing players to miss 27 days are probably the more moderate and severe concussions suggesting the possibility that minor concussions are going unrecognized or unreported. Therefore it becomes important to assess the knowledge base of players so that they can report those symptoms to the health care provider on staff.

Although the lower extremity plays a large role in soccer, the head and neck are also at high risk for injury. In professional soccer, there are between 1.7 and 12.5 head and neck injuries per 1,000 player hours (Andersen et al. 2004, Fuller et al. 2005). A study of 25 European teams found 46 concussions across 9 seasons and in 23 Swedish Premier League, concussions only made up 1% of all injuries (Hägglund et al. 2009, Waldén et al. 2011). Conversely, a study of American collegiate soccer suggested that the average team would experience between 1 and 1.5 concussions per season or .49 per 1,000 athlete exposures, which may suggest that concussions may be underreported in the

elite English leagues (Bolden et al. 1998, Gessel et al. 2007). The reasons that athletes are not reporting concussions in Italian soccer are because they did not think it was serious, thought it was part of the game, did not know it was a concussion, or did not want to be removed from the game (Broglia et al. 2010). These players are downplaying the seriousness of concussions and are putting themselves at risk for further injury by not taking concussions seriously.

The purpose of the study is to assess English soccer player's knowledge and attitudes surrounding concussions. The research questions are; Can players correctly identify signs and symptoms of a concussion? What misconceptions do players have about concussions? What is player's level of concussion knowledge? What attitudes do player's have about concussions? What are the reporting rates and reasons behind reporting rates?

Outcome.

I expect to gain a baseline level of concussion knowledge of English Npower championship. The players themselves will not directly benefit from this study. However there will be a benefit to society, which will be an improved understanding of the level of concussion knowledge and the attitudes players have about concussions.

Describe your subjects.

This study will aim to recruit approximately 30 male participants; however, this is dependent on the club's roster, which has yet to be determined. However, we aim to

recruit each active member on the roster who meets inclusion criteria. Participants will be recruited with the assistance of the head physiotherapist of the club who has provided a letter of cooperation (Appendix A). The inclusion criteria will be any person who's name appears on the team roster. The exclusion criteria will be players who are under the age of 18. All participants will provide written informed consent prior to participation in the study.

Methodology (Procedures).

In this study, participants will be given a modified RoCKAS-ST questionnaire (Rosenbaum et al. 2010) (Appendix B). The survey is developed to assess participant's concussion knowledge and attitudes. The tool contains a 25-item concussion knowledge index and a 15-item concussion attitude index. The knowledge index has a reliability of .67 and the attitudes index has a reliability of .79. The tool has been modified slightly to include terminology which will be more familiar to the soccer players. Also, the last section of the instrument was removed and a 16 symptom recognition checklist was added (McLeod et al 2007). The checklist was found to be .89 reliable with an ICC of .88. All participants that meet the inclusion criteria will be given a copy of the survey. The survey will be administered either during a team meeting where the principal investigator can ensure that participants are working individually and answer any questions and should take between 5-10 minutes to complete. Or they will be administered to players individually at convenient times following training sessions or meetings. Following this, all players will be interviewed individually using a set of semi-structured questions (Appendix C). Interviews will be recorded using Quicktime audio recording function on

a laptop, Ipod voice memos app, as well as the voice memo on an iphone. Once interviews are complete, the lead researcher will be transcribing interviews. Once transcription is complete, interviews will be focused to eliminate irrelevant and repetitive data. Once this has been done, participants will be e-mailed a copy of the transcripts to ensure transcriptions were accurate and will be given the opportunity to make any changes or additions. The data will then be coded and broken into categories. From the categories, themes will be identified. The transcriptions and themes will then be reviewed by the research team to ensure there was an unbiased data collection. The data will then be interpreted to explain the meaning behind the data and combined with the quantitative results to evaluate the concussion knowledge and attitudes among Npower Championship soccer players.

Special Conditions:

Risk.

There is no greater risk than the risk associated with daily life. The risks that participants may deal with are embarrassment or confusion if they are unable to answer questions.

Participants may also experience some emotional or social discomfort during the interview process regarding their own personal knowledge and attitudes regarding concussions. Therefore, participants can choose not to answer any question which makes them uncomfortable.

Cover page checklist. *Please provide additional information concerning risk elements checked on the cover page and not yet addressed in the narrative. If none, please state "none of the items listed on the cover page checklist apply." The [cover page](#) can be accessed from the IRB forms page. (Note – if a student, make sure your advisor has read*

your application and signed your cover page. (Your advisor is responsible for the research you undertake in the name of GSU.)

Reminder: No research can be undertaken until your proposal has been approved by the IRB.

**COLLEGE OF HEALTH AND KINESIOLOGY
DEPARTMENT OF ATHLETIC TRAINING**

My name is Joshua Williams and I am an athletic training graduate student at Georgia Southern University in Statesboro, GA, USA. I am conducting this research as part of my masters thesis. The purpose of the study is to assess English footballer's attitudes and knowledge surrounding concussions. Participation in this study will include a 5-10 minute pencil and paper questionnaire. It will also include one 15-30 minute interview, which will address concussion knowledge and attitudes.

There is no physical risk to the participants. The risks that participants may deal with are embarrassment or confusion if they are unable to answer questions. Participants may also experience some emotional or social discomfort during the interview process regarding their own personal knowledge and attitudes regarding concussions. Participants may skip or leave blank any questions that they are uncomfortable answering. There are no benefits to the individual for the study. The benefits to society include knowing where deficits in player knowledge exist and knowing what to expect when approaching an athlete with a suspected concussion.

The participant will need approximately 5-10 minutes to fill out the initial survey. Then participants will be randomly selected for the interviews. Players who are selected will be required to complete one 15-30 minute semi-structured interviews that will address knowledge and attitudes surrounding concussions.

The only people who will have access to the information are the principal investigator and the committee members on the project. They will have access for analysis. The data will be stored on the password protected computer of the principal investigator in a password protected folder and will be destroyed 3 years after completion of the study.

Participants have the right to ask questions and have those questions answered. If you have questions about this study, please contact the researcher named above or the researcher's faculty advisor, whose contact information is located at the end of the informed consent. For questions concerning your rights as a research participant, contact Georgia Southern University Office of Research Services and Sponsored Programs at 912-478-0843.

Participation in this study is completely voluntary. Participants may end their participation at any time by telling the principal investigator that they wish to no longer participate. They also do not have to answer any questions they do not want to answer. There is no penalty for deciding not to participate in the study. They may decide at any time they do not want to participate further and may withdraw without penalty or retribution. There will be no inducements for participation within this study.

Participants names will be used during data collection and analysis. However during the results and the discussion of the study, pseudonyms -names will be given to participants so that nothing that was written or said can be traced back to them. The only people who will have direct access to the transcripts are the primary researcher and the research committee. You may withdraw from the study at any time by sending a request in writing to the principal investigator.

You must be 18 years of age or older to consent to participate in this research study. If you consent to participate in this research study and to the terms above, please sign your name and indicate the date below.

You will be given a copy of this consent form to keep for your records. This project has been reviewed and approved by the Georgia Southern University Institutional Review Board under tracking number **H12447**.

Title of Project: Concussion Knowledge and Attitudes in English Football (Soccer)

Principal Investigator: Joshua Williams, 100 Bermuda Run Apt F12, Statesboro, GA 30458, 253-720-7422, Jw06849@georgiasouthern.edu
Other Investigators: Jody Langdon, Ph.D. P.O. Box 8076 Statesboro, GA 30460 (912)-478-5378, jlangdon@GeorgiaSouthern.edu
Jim McMillan Ed.D. P.O. Box 8076 Statesboro, GA 30460 (912)-478-1926, jmcmillan@GeorgiaSouthern.edu
Faculty Advisor: Thomas Buckley Ed.D. P.O. Box 8076 Statesboro, Ga 30460 (912)-478-5268, tbuckley@GeorgiaSouthern.edu

Participant Signature

Date

I, the undersigned, verify that the above informed consent procedure has been followed.

Investigator Signature

Date

Georgia Southern University
Checklist for Developing an Informed Consent Form

The Informed Consent Form must be on GSU letterhead and include these required elements: (Note: The informed consent template is on GSU letterhead in Word format.)

- Title of the study, exactly as it appears on the IRB application
- Affiliation with Georgia Southern University (clearly identify who you are and your role in project)
- Investigator contact information (and advisor contact information, if investigator is a student)
- Purpose of the study
- Procedures to be followed
- Discomforts or risks (This may be no more than the normal risks associated with normal daily activities. Do not over state or under state the risk.)
- Benefits of the study to participants and society (There may be no benefit to the individual.)
- Duration/timeframe of participation (for the individual participants – not the entire study.)
- Compensation (if applicable – must be reasonable and equitable)
- Statement that participation is voluntary
- Statement of confidentiality indicating the ways the data may be used and stored. (e.g., data will be reported in aggregate form so individual answers will not be identifiable.) How long will the data be maintained. (No less than 7 years from completion per the Board of Regents retention policy.)
- Statement that participants may withdraw their participation at any time (if data collection is not anonymous). If compensation or incentive is offered and there is a penalty for not completing the study, explain the consequence.)
- Statement that participants can decline to answer specific questions, if applicable.
- If participants are students where the survey is administered in a group or class setting, a statement allowing students to place a blank survey in the collection envelope with the other surveys if they choose not to participate and do not want to self identify.
- Confidentiality assurances, procedures (How the data will be kept secure and confidential. Please remember that Georgia is an "Open Records" state and you cannot guarantee confidentiality.)
- Statement that participants must be 18 years of age or older to participate. If subjects are minors, parental consent and minor's consent is required.
- Signature and date lines (for participants and investigators), unless using *passive consent*
- Connecting page numbers if more than one page (e.g. Page 1 of 2, Page 2 of 2)
- To contact the Office of Research Compliance for answers to questions about the rights of research participants or for privacy concerns please email IRB@georgiasouthern.edu or call (912) 478-0843. This project has been reviewed and approved by the GSU IRB under tracking number H_____.

If your project is using protected health information for Research Purposes:

- Expiration date for consent to use the data. (This may say end of data analysis for this project. You may include an option to de-identify data for use in future reanalysis.)
- "Uses and Disclosures Covered by this Authorization" – List every known person, class of persons, or organizations (including the sponsor agency or company, known subsidiaries of the sponsor, cooperative data groups, etc.) that may create, disclose, receive, and/or use protected health information in connection with the study.
- Provide a "specific and meaningful description" of the information that will be accessed by this study.
- Provide locations from which the information will be accessed, (E.g., patient charts at xyz clinic; abc hospital admission records; abc health department clinic records and the XYS data warehouse.)
- Notification that you may withdraw from the study at any time by sending a request in writing to the PI. If you withdraw, the researcher may use and share only the information that has been gathered prior to the date of collection.

- Provide locations from which the information will be accessed, (E.g., patient charts at xyz clinic; abc hospital admission records; abc health department clinic records and the XYS data warehouse.)

Additional Considerations of Informed Consent:

1. All wording must be at an 8th grade reading level or below. A layperson or someone unfamiliar with your research should easily understand it. Avoid highly technical terms, jargon, etc.
2. Injury clause should be included if any risk of injury exists (physical or psychological): *"I understand that medical care is available in the event of injury resulting from research but that neither financial compensation nor free medical treatment is provided. I also understand that I am not waiving any rights that I may have against the University for injuries resulting from negligence of the University or investigators."*
 - *Referral information (including a phone number) for those who wish to seek assistance should also be included (e.g. Counseling and Psychological Services)
3. For surveys that are anonymous, also known as *passive consent*, the Informed Consent Form does not need to be signed, but the following statement must be included. *"Completion and return of the survey, questionnaire, etc. implies that you agree to participate and your data may be used in this research."* (If there is any means of identifying a participant, a signed consent form is required.)
4. If surveys are to be administered electronically, but not anonymously,
 - a. state that there is only limited assurance of confidentiality due to the technology of the Internet;
 - b. space for participants to type their names and the date will replace the signature lines
5. If audio- or videotaping will be used, state:
 - a. where tapes will be stored;
 - b. when tapes will be destroyed (within a definitive time frame such as "by the year 2014" or tapes will be destroyed immediately following transcription);
 - c. who will have access to the tapes.
6. If deception is involved and the full purpose of the study will not be disclosed to participants until their participation has ended, a statement such as the following needs to be included: *Because the validity of the results of the study could be affected if the purpose of the study is fully divulged to me prior to my participation, I understand that the purpose of the study cannot be explained to me at this time. I understand that I will have an opportunity to receive a complete explanation of the study's purpose following the completion of the study.* If the consent statement will affect the outcome of the research, a thorough description of the debriefing as well as justification statement should be inserted in the methodology section of the proposal.
7. Participants must receive a copy of the consent document for their records. Therefore, unless passive, it cannot be attached to or be part of the instrument.
8. If extra credit or course credit is offered as compensation for participation, the consent form must state what the alternatives to participating are to earn equivalent extra credit or course credit.
9. If compensation is offered, the following statement may need to be included in the consent form, *"If you are an employee of Georgia Southern University, the compensation you receive for participation will be treated as taxable income and therefore taxes will be taken from the total amount. If you are not employed by Georgia Southern University, total payments within one calendar year that exceed \$600 will require the University to annually report these payments to the IRS. This may require you to claim the compensation that you receive for participation in this study as taxable income."*

**For a sample of an informed consent, please go to the IRB forms webpage. Do *not* simply copy a sample if your study is significantly different from the sample provided.

CERTIFICATION OF INVESTIGATOR RESPONSIBILITIES

By signing below I agree/certify that:

1. I have reviewed this protocol submission in its entirety and I state that I am fully cognizant of, and in agreement with, all submitted statements and that all statements are truthful.
2. This application, if funded by an extramural source, accurately reflects all procedures involving human participants described in the proposal to the funding agency previously noted.
3. I will conduct this research study in strict accordance with all submitted statements except where a change may be necessary to eliminate an apparent immediate hazard to a given research subject.
 - a. I will notify the IRB promptly of any change in the research procedures necessitated in the interest of the safety of a given research subject.
 - b. I will request and obtain IRB approval of any proposed modification to the research protocol or informed consent document(s) prior to implementing such modifications.
4. I will ensure that all co-investigators, and other personnel assisting in the conduct of this research study have been provided a copy of the entire current version of the research protocol and are fully informed of the current (a) study procedures (including procedure modifications); (b) informed consent requirements and process; (c) anonymity and/or confidentiality assurances promised when securing informed consent (d) potential risks associated with the study participation and the steps to be taken to prevent or minimize these potential risks; (e) adverse event reporting requirements; (f) data and record-keeping requirements; and (g) the current IRB approval status of the research study.
5. I will not enroll any individual into this research study: (a) until such time that the conduct of the study has been approved in writing by the IRB; (b) during any period wherein IRB renewal approval of this research study has lapsed; (c) during any period wherein IRB approval of the research study or research study enrollment has been suspended, or wherein the sponsor has suspended research study enrollment; or (d) following termination of IRB approval of the research study or following sponsor/principal investigator termination of research study enrollment.
6. I will respond promptly to all requests for information or materials solicited by the IRB or IRB Office.
7. I will submit the research study in a timely manner for IRB renewal approval.
8. I will not enroll any individual into this research study until such time that I obtain his/her written informed consent, or, if applicable, the written informed consent of his/her authorized representative (i.e., unless the IRB has granted a waiver of the requirement to obtain written informed consent).
9. I will employ and oversee an informed consent process that ensures that potential research subjects understand fully the purpose of the research study, the nature of the research procedures they are being asked to undergo, the potential risks of these research procedures, and their rights as a research study volunteer.
10. I will ensure that research subjects are kept fully informed of any new information that may affect their willingness to continue to participate in the research study.
11. I will maintain adequate, current, and accurate records of research data, outcomes, and adverse events to permit an ongoing assessment of the risks/benefit ratio of research study participation.
12. I am cognizant of, and will comply with, current federal regulations and IRB requirements governing human subject research including adverse event reporting requirements.
13. I will notify the IRB within 24 hours regarding any unexpected study results or adverse events that injure or cause harm to human participants.
14. I will make a reasonable effort to ensure that subjects who have suffered an adverse event associated with research participation receive adequate care to correct or alleviate the consequences of the adverse event to the extent possible.
15. I will notify the IRB prior to any change made to this protocol or consent form (if applicable).
16. I will notify the IRB office within 30 days of a change in the PI or the closure of the study.

Joshua Williams
Principal Investigator Name (typed)


Principal Investigator Signature

5/1/12
Date

Thomas Buckley Ed. D.
Faculty Advisor Name (typed)


Faculty Advisor Signature*

4/3/12
Date

*Faculty signature indicates that he/she has reviewed the application and attests to its completeness and accuracy

Completion Report

<https://www.citiprogram.org/members/learnersII/crbystage.asp?strKeyID...>**CITI Collaborative Institutional Training Initiative****CITI Health Information Privacy and Security (HIPS) Curriculum Completion Report**
Printed on 2/14/2012**Learner:** Thomas Buckley (username: atcbuck)**Institution:** Georgia Southern University**Contact Information** 2121-C Hollis Building

Box 8076

Department: Health and Kinesiology

Phone: x5268

Email: TBuckley@Georgiasouthern.edu

CITI Health Information Privacy and Security (HIPS) for Clinical**Investigators:** This course for **Clinical Investigators** will satisfy the mandate for basic training in the HIPAA. In addition other modules on keeping your computers, passwords and electronic media safe and secure are included.**Stage 1. Basic Course Passed on 02/11/12 (Ref # 7465043)**

Required Modules	Date Completed	
About the Course	02/10/12	1/1 (100%)
Privacy Rules: Introduction to Federal and State Requirements*	02/10/12	10/10 (100%)
Privacy Rules and Research*	02/10/12	8/10 (80%)
Security Rules: Basics of Being Secure, Part 1*	02/10/12	no quiz
Security Rules: Basics of Being Secure, Part 2*	02/10/12	9/10 (90%)
Completing the Privacy and Security Course	02/10/12	no quiz
Elective Modules	Date Completed	
Security Rules: Protecting your Computer*	02/11/12	6/8 (75%)
Security Rules: Picking and Protecting Passwords**	02/11/12	8/8 (100%)

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator

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CERTIFICATION OF INVESTIGATOR RESPONSIBILITIES

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1. I have reviewed this protocol submission in its entirety and I state that I am fully cognizant of, and in agreement with, all submitted statements and that all statements are truthful.
2. This application, if funded by an extramural source, accurately reflects all procedures involving human participants described in the proposal to the funding agency previously noted.
3. I will conduct this research study in strict accordance with all submitted statements except where a change may be necessary to eliminate an apparent immediate hazard to a given research subject.
 - a. I will notify the IRB promptly of any change in the research procedures necessitated in the interest of the safety of a given research subject.
 - b. I will request and obtain IRB approval of any proposed modification to the research protocol or informed consent document(s) prior to implementing such modifications.
4. I will ensure that all co-investigators, and other personnel assisting in the conduct of this research study have been provided a copy of the entire current version of the research protocol and are fully informed of the current (a) study procedures (including procedure modifications); (b) informed consent requirements and process; (c) anonymity and/or confidentiality assurances promised when securing informed consent (d) potential risks associated with the study participation and the steps to be taken to prevent or minimize these potential risks; (e) adverse event reporting requirements; (f) data and record-keeping requirements; and (g) the current IRB approval status of the research study.
5. I will not enroll any individual into this research study: (a) until such time that the conduct of the study has been approved in writing by the IRB; (b) during any period wherein IRB renewal approval of this research study has lapsed; (c) during any period wherein IRB approval of the research study or research study enrollment has been suspended, or wherein the sponsor has suspended research study enrollment; or (d) following termination of IRB approval of the research study or following sponsor/principal investigator termination of research study enrollment.
6. I will respond promptly to all requests for information or materials solicited by the IRB or IRB Office.
7. I will submit the research study in a timely manner for IRB renewal approval.
8. I will not enroll any individual into this research study until such time that I obtain his/her written informed consent, or, if applicable, the written informed consent of his/her authorized representative (i.e., unless the IRB has granted a waiver of the requirement to obtain written informed consent).
9. I will employ and oversee an informed consent process that ensures that potential research subjects understand fully the purpose of the research study, the nature of the research procedures they are being asked to undergo, the potential risks of these research procedures, and their rights as a research study volunteer.
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11. I will maintain adequate, current, and accurate records of research data, outcomes, and adverse events to permit an ongoing assessment of the risks/benefit ratio of research study participation.
12. I am cognizant of, and will comply with, current federal regulations and IRB requirements governing human subject research including adverse event reporting requirements.
13. I will notify the IRB within 24 hours regarding any unexpected study results or adverse events that injure or cause harm to human participants.
14. I will make a reasonable effort to ensure that subjects who have suffered an adverse event associated with research participation receive adequate care to correct or alleviate the consequences of the adverse event to the extent possible.
15. I will notify the IRB prior to any change made to this protocol or consent form (if applicable).
16. I will notify the IRB office within 30 days of a change in the PI or the closure of the study.

Joshua Williams
Principal Investigator Name (typed)

Joshua Williams
Principal Investigator Signature

5/2/12
Date

Jody Langdon Ph. D.
Faculty Advisor Name (typed)

Jody Langdon
Faculty Advisor Signature*

5/2/12
Date

*Faculty signature indicates that he/she has reviewed the application and attests to its completeness and accuracy

2/21/2011

Completion Report

CITI Collaborative Institutional Training Initiative

**CITI Health Information Privacy and Security (HIPS) Curriculum Completion Report
Printed on 2/21/2011**

Learner: Jody Langdon (username: jlangdon81)
Institution: Georgia Southern University
Contact Information Phone: 9124785378
 Email: jlangdon@georgiasouthern.edu

CITI Health Information Privacy and Security (HIPS) for Clinical Investigators: This course for **Clinical Investigators** will satisfy the mandate for basic training in the HIPAA. In addition other modules on keeping your computers, passwords and electronic media safe and secure are included.

Stage 1. Basic Course Passed on 10/27/10 (Ref # 5164258)

Required Modules	Date Completed	
About the Course	10/27/10	1/1 (100%)
Privacy Rules: Introduction to Federal and State Requirements*	10/27/10	10/10 (100%)
Privacy Rules and Research*	10/27/10	7/10 (70%)
Security Rules: Basics of Being Secure, Part 1*	10/27/10	no quiz
Security Rules: Basics of Being Secure, Part 2*	10/27/10	10/10 (100%)
Completing the Privacy and Security Course	10/27/10	no quiz
Elective Modules	Date Completed	
Security Rules: Picking and Protecting Passwords**	10/27/10	6/8 (75%)
Security Rules: Protecting your identity*	10/27/10	6/7 (86%)

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
 Professor, University of Miami
 Director Office of Research Education
 CITI Course Coordinator

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2/21/2011

Completion Report

CITI Collaborative Institutional Training Initiative

Social & Behavioral Research - Basic/Refresher Curriculum Completion Report

Printed on 2/21/2011

Learner: Jody Langdon (username: jlangdon81)

Institution: Georgia Southern University

Contact Information Phone: 9124785378

Email: jlangdon@georgiasouthern.edu

Social & Behavioral Research - Basic/Refresher: Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in Social/Behavioral Research with human subjects.

Stage 1. Basic Course Passed on 10/27/10 (Ref # 5164256)

Required Modules	Date Completed	
Belmont Report and CITI Course Introduction	10/27/10	3/3 (100%)
Students in Research - SBR	10/27/10	9/10 (90%)
History and Ethical Principles - SBR	10/27/10	3/4 (75%)
Defining Research with Human Subjects - SBR	10/27/10	5/5 (100%)
The Regulations and The Social and Behavioral Sciences - SBR	10/27/10	3/5 (60%)
Assessing Risk in Social and Behavioral Sciences - SBR	10/27/10	4/5 (80%)
Informed Consent - SBR	10/27/10	4/5 (80%)
Privacy and Confidentiality - SBR	10/27/10	3/3 (100%)
Workers as Research Subjects-A Vulnerable Population	10/27/10	4/4 (100%)
Conflicts of Interest in Research Involving Human Subjects	10/27/10	2/2 (100%)
Elective Modules	Date Completed	
Records-Based Research	10/27/10	2/2 (100%)
Research in Public Elementary and Secondary Schools - SBR	10/27/10	4/4 (100%)
Internet Research - SBR	10/27/10	4/4 (100%)
Research and HIPAA Privacy Protections	10/27/10	2/6 (33%)

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Paul Braunschweiger Ph.D.
Professor, University of Miami

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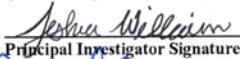
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CERTIFICATION OF INVESTIGATOR RESPONSIBILITIES

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3. I will conduct this research study in strict accordance with all submitted statements except where a change may be necessary to eliminate an apparent immediate hazard to a given research subject.
 - a. I will notify the IRB promptly of any change in the research procedures necessitated in the interest of the safety of a given research subject.
 - b. I will request and obtain IRB approval of any proposed modification to the research protocol or informed consent document(s) prior to implementing such modifications.
4. I will ensure that all co-investigators, and other personnel assisting in the conduct of this research study have been provided a copy of the entire current version of the research protocol and are fully informed of the current (a) study procedures (including procedure modifications); (b) informed consent requirements and process; (c) anonymity and/or confidentiality assurances promised when securing informed consent (d) potential risks associated with the study participation and the steps to be taken to prevent or minimize these potential risks; (e) adverse event reporting requirements; (f) data and record-keeping requirements; and (g) the current IRB approval status of the research study.
5. I will not enroll any individual into this research study: (a) until such time that the conduct of the study has been approved in writing by the IRB; (b) during any period wherein IRB renewal approval of this research study has lapsed; (c) during any period wherein IRB approval of the research study or research study enrollment has been suspended, or wherein the sponsor has suspended research study enrollment; or (d) following termination of IRB approval of the research study or following sponsor/principal investigator termination of research study enrollment.
6. I will respond promptly to all requests for information or materials solicited by the IRB or IRB Office.
7. I will submit the research study in a timely manner for IRB renewal approval.
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11. I will maintain adequate, current, and accurate records of research data, outcomes, and adverse events to permit an ongoing assessment of the risks/benefit ratio of research study participation.
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15. I will notify the IRB prior to any change made to this protocol or consent form (if applicable).
16. I will notify the IRB office within 30 days of a change in the PI or the closure of the study.

Joshua Williams
Principal Investigator Name (typed)


Principal Investigator Signature

5/1/12
Date

Jim Mcmillan Ed. D.
Faculty Advisor Name (typed)


Faculty Advisor Signature*

5-1-2012
Date

*Faculty signature indicates that he/she has reviewed the application and attests to its completeness and accuracy

CITI Collaborative Institutional Training Initiative (CITI)

Biomedical Responsible Conduct of Research Curriculum Completion Report Printed on 10/26/2011

Learner: James L. McMillan (username: james.l.mcmillan)
Institution: Georgia Southern University
Contact Information: P.O. Box 8076
 Statesboro, Ga. 30460-8076
 Department: Health and Kinesiology
 Phone: 912-478-1926
 Email: jmcmillan1968@gmail.com

Biomedical Responsible Conduct of Research: This course is for investigators, staff and students with an interest or focus in **Biomedical Research**. This course contains text, embedded case studies AND quizzes.

Stage 1. Basic Course Passed on 10/26/11 (Ref # 6935619)

Elective Modules	Date Completed	
Introduction to the Responsible Conduct of Research	10/26/11	no quiz
Research Misconduct 1-1215	10/26/11	5/5 (100%)
Data Acquisition, Management, Sharing and Ownership 1-1308	10/26/11	4/5 (80%)
Publication Practices and Responsible Authorship 1-1380	10/26/11	4/5 (80%)
Peer Review 1-1368	10/26/11	5/5 (100%)
Mentor and Trainee Responsibilities 01234 1250	10/26/11	5/6 (83%)
Conflicts of Interest and Commitment 1-1622	10/26/11	6/6 (100%)
Collaborative Research 1-1450	10/26/11	4/6 (67%)
The CITI RCR Course Completion Page.	10/26/11	no quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
 Professor, University of Miami
 Director Office of Research Education
 CITI Course Coordinator

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CITI Collaborative Institutional Training Initiative

CITI Health Information Privacy and Security (HIPS) Curriculum Completion Report Printed on 5/8/2012

Learner: Joshua Williams (username: Jdubwilliams7)

Institution: Georgia Southern University

Contact Information Department: Health and Kinesiology

Phone: 253-720-7422

Email: Jw06849@georgiasouthern.edu

CITI Health Information Privacy and Security (HIPS) for Clinical

Investigators: This course for **Clinical Investigators** will satisfy the mandate for basic training in the HIPAA. In addition other modules on keeping your computers, passwords and electronic media safe and secure are included.

Stage 1. Basic Course Passed on 04/06/12 (Ref # 7753689)

Required Modules	Date Completed	
About the Course	04/06/12	1/1 (100%)
Privacy Rules: Introduction to Federal and State Requirements*	04/06/12	9/10 (90%)
Privacy Rules and Research*	04/06/12	9/10 (90%)
Security Rules: Basics of Being Secure, Part 1*	04/06/12	no quiz
Security Rules: Basics of Being Secure, Part 2*	04/06/12	10/10 (100%)
Completing the Privacy and Security Course	04/06/12	no quiz
Elective Modules	Date Completed	
Security Rules: Safer Email-ing and IM-ing, Part 1*	04/06/12	no quiz
Security Rules: Safer Email-ing and IM-ing, Part 2*	04/06/12	11/16 (69%)

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator

[Return](#)





COLLEGE OF HEALTH & HUMAN SCIENCES
POST OFFICE BOX 8076
STATESBORO, GEORGIA 30460-8076
TELEPHONE (912) 681-0200

April 7, 2012

Human Subjects - Institutional Review Board
Georgia Southern University
P.O. Box 8005
Statesboro, GA 30461

To Whom It May Concern:

Joshua Williams has requested permission to collect research data from professional footballers through a project entitled, Concussion Knowledge and Attitudes in English Football (Soccer). I have been informed of the purposes of the study and the nature of the research procedures. I have also been given an opportunity to ask questions of the researcher.

The data requested includes: health history, personal demographics (e.g., age, soccer experience, and position), concussion history, playing history, club history, concussion knowledge, concussion attitudes, and concussions perceptions. The information will be gathered from the participants once they have signed the informed consent. The data will be made available for one to two months.

As a representative of Derby County Football Club, I am authorized to grant permission to have the researcher recruit research participants from our football team. Joshua Williams is also permitted to collect research data during prearranged meeting times with team members. The researcher has agreed to the following restrictions: Only contacting 5-10 randomly selected players for follow-up interviews and only contacting participants during July and August of 2012.

If you have any questions, please contact me at 00447872063994.

Sincerely,

Neil Sullivan
Head Physiotherapist

Supplemental: **International research questions** (Answer each question in the space below the question.)

Principle Investigator Name: Joshua Williams

Project Title: Concussion Knowledge and Attitudes in English Football (Soccer)

1. Describe qualifications the researcher has in relevant coursework, past experience or training to justify his/her international research capabilities.

I have taken Kinesiology 7336- Current issues in Athletic Training, which is a class designed to explore the literature on concussions. Specifically to be aware of the impact of mild traumatic brain injury of active and retired athletes, understand the neurometabolic cascade of concussion and how it impacts the presentation and recognition of MTBI, the prevalence of MTBI in various age groups of physically active individuals, recognize signs and symptoms of MTBI, comprehend the biomechanical aspects of MTBI, understand considerations of MTBI recovery, assess validity and practical applications of grading scales, understand Neuropsychological testing and role in return to play decisions, and understand the return to play and or retirement considerations for athletes.

2. Provide a description of the context of cultural norms or local laws and differences with U.S. culture with respect to research autonomy of individual, or groups, consent procedures, recruitment techniques, age of majority, if parental consent is required, etc. Include an explanation of what cultural sensitivities will be required to conduct this study. (Consider current events. Attach documentation if necessary.)

To my knowledge, there are not any cultural or local laws that are significantly different than those found in the United States. I will be working with participants who are over the age of 18 so no minor assent or parental consent will be required. On the first page of the questionnaire will be an IRB informed consent document. I will also be getting a letter of cooperation from the club.

3. Explain the researcher's ability to speak, read, or write the language of the potential participants. Describe the primary language(s) spoken in the community. Explain provisions for culturally appropriate recruitment and consent accommodations, such as, translations or involvement of native language speakers.

The primary language in the city of Derby is English. I am born and raised in the United States and have grown up speaking English. Although there may be some small terminological differences, there should be no language barriers between the subjects and myself. To ensure that questions are not confusing, the surveys and the semi-structured questions will be reviewed by the head physiotherapist, a native of England to try and limit confusion. I will also be pilot testing the questions with some select people to try and make sure to limit terminological issues.

4. Describe if the researcher has the knowledge or expertise of the local or state or national laws that may have an impact on this research. The researcher must understand cultural or community attitudes to appreciate laws, regulations, or norms and remain in compliance with U.S. regulations for the research as well as local requirements. Consider current events. (Attach documentation if necessary.)

I am unaware of any laws that would impact my research. I am working one specific team and so anything that may cause problems should already be in practice with the team.

Therefore by getting approval and cooperation from the club, I shouldn't have any legal issues.

5. Describe if the researcher was invited into the community. If yes, then provide documentation of the collaboration. If not, describe how the researcher will have culturally appropriate access to the community.

The researcher has been invited to the training ground and club facilities during the preseason to do the research.

6. Provide information about the ethics committee (IRB equivalent) or other regulatory entity requiring review of the research in the host country that will review the protocol/project. Provide contact information for the local entity. If this research is US federally funded, additional documentation and inter-institutional agreements will be needed. (Contact the Research Compliance Office for assistance.)

The entity that will be reviewing the research will be the physiotherapist for the team. He will be signing the letter of cooperation and evaluating the questions and instruments before it is administered to the participants.

7. Describe any aspects of the cultural, political or economic climate in the country where the research will be conducted which might increase the risk for the participants. Describe the steps you will take to minimize these risks:

The risks to the participants are social embarrassment and confusion if the answers to the surveys and interviews were released to the press or any media source. If I were to release this information it would be a HIPAA violation. Therefore, the steps I will be using are keeping

interview files in a password encrypted files on my personal password protected computer so that they can not be accessed by anyone besides myself and the research committee.

8. Describe how you will communicate with the IRB while you are conducting the research in the even that the project requires changes or there are reportable events.

Where I am staying in England will have internet access. I will be able to email any questions or concerns I have to the IRB.

9. If the researcher is a student, describe how the student will communicate with the advisor during the conduct of the research and how the advisor will oversee the research.

I will be able to communicate with my advisor using both e-mail and Google talk with any questions or concerns.

10. Provide copies of translated consent documents. If oral consent is planned, a script must be provided.

I will not need to translate consent documents because athletes should speak English.

11. Please provide a letter of approval (if local IRB or ethics board review required) or cooperation from the University, agency or a local official who will serve as your international partner. (Note: if the international board requires your GSU approval first, contact Research Compliance for assistance. irb@georgiasouthern.edu or 912-478-0843.)

APPENDIX D

ROCKAS-ST INSTRUMENT



Georgia Southern University



Concussion Knowledge and Attitudes in English Football (Soccer) Players

1. Name: _____
2. Height (in m): _____
3. Weight (in kg): _____
4. Age: _____
5. Hometown: _____
6. Nationality: _____
7. Primary Position: _____
8. Number of concussions you have sustained: _____
 - a. Date of most recent concussion: _____
9. Number of Years Playing Football Professionally: _____
10. Number Years Playing Football Total: _____
11. Highest Level Played: _____
12. Have you ever been knocked silly/seen stars? YES
 NO
 - a. If YES, how many times: _____

SECTION 1

Please read the following statements and circle TRUE or FALSE for each question.

1. There is a possible risk of death if a second concussion occurs before the first one has healed	TRUE	FALSE
2. Running everyday does little to improve cardiovascular health	TRUE	FALSE
3. People who had one concussions are more likely to have another concussion	TRUE	FALSE
4. Cleats help athlete's feel grip the playing surface	TRUE	FALSE
5. In order to be diagnosed with a concussion, you have to be knocked out.	TRUE	FALSE
6. A concussion can only occur if there is a direct hit to the head	TRUE	FALSE
7. Being knocked unconscious always causes permanent damage to the brain	TRUE	FALSE
8. Symptoms of a concussion can last several weeks	TRUE	FALSE
9. Sometimes a second concussion can help a person remember things that were forgotten after the first	TRUE	FALSE
10. Weightlifting helps to tone and/or build muscle	TRUE	FALSE
11. After a concussion occurs, brain imaging (CAT scan, MRI, X-ray etc.) typically shows visible physical damage (bruise, blood clot) to the brain	TRUE	FALSE
12. If you receive one concussion and you have never had a concussion before, you will become less intelligent	TRUE	FALSE
13. After 10 days, symptoms of a concussion are usually completely gone.	TRUE	FALSE
14. After a concussion, people can forget who they are and not recognize others but be perfect in every other way	TRUE	FALSE
15. High-school freshmen and college freshmen tend to be the same age.	TRUE	FALSE
16. Concussions can sometimes lead to emotional disruptions	TRUE	FALSE
17. An athlete who gets knocked out after getting a concussion is experiencing a coma	TRUE	FALSE
18. There is rarely a risk to long-term health and well-being from multiple concussions	TRUE	FALSE

SECTION 2

Please read each of the following scenarios and circle TRUE or FALSE for each question that follows the scenarios

Scenario 1:

While playing in a game, player Q and player X collide with each other and each suffers a concussion. Player Q has never had a concussion in the past. Player X has had 4 concussions in the past.

1. It is likely that player Q's concussion will affect his long-term health and well-being.	TRUE	FALSE
2. It is likely that player X's concussion will affect his long term-health and well-being.	TRUE	FALSE

Scenario 2:

Player F suffered a concussion in a game. He continued to play in the game despite the fact that he continued to feel the effects of the concussion.

3. Even though player F is still experiencing the effects of the concussion, his performance will be the same as it would be had he not suffered a concussion.	TRUE	FALSE
--	------	-------

SECTION 3

For each question, circle the number that best describes how you feel about each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I would continue playing a sport while also having a headache that results from a concussion	1	2	3	4	5
2. I feel that coaches need to be extremely cautious when determining whether an athlete should return to play	1	2	3	4	5
3. I feel that mouth guards protect teeth from being damaged or knocked out	1	2	3	4	5
4. I feel that professional athletes are more skilled at their sport than high school athletes	1	2	3	4	5
5. I feel that concussions are less important than other injuries	1	2	3	4	5
6. I feel that an athlete has a responsibility to return to a game even if it means playing while still experiencing symptoms of a concussion	1	2	3	4	5
7. I feel that an athlete who is knocked unconscious should be taken to the emergency room	1	2	3	4	5
8. I feel that most high-school athletes will play professional sports in the future.	1	2	3	4	5

SECTION 4

For each question, read the scenarios and circle the number that best describes your view. (For the questions that ask you what *most athletes* feel, best your answer on how you think MOST athletes would feel).

Scenario 1:

Player R suffers a concussion during a game. Coach A decides to keep player R out of the game. Player R's team loses the game.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I feel that Coach A made the right decision to keep Player R out of the game	1	2	3	4	5
2. Most athletes would feel that Coach A made the right decision to keep Player R out of the game.	1	2	3	4	5

Scenario 2:

Athlete M suffered a concussion during the first game of the season. Athlete O suffered a concussion of the same severity during the semifinal playoff game. Both athletes had persisting symptoms.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I feel that Athlete M should have returned to play during the first game of the season	1	2	3	4	5
2. Most athletes would feel that Athlete M should have returned to play during the first game of the season	1	2	3	4	5
3. I feel that Athlete O should have returned to play during the semifinal playoff game	1	2	3	4	5
4. Most athletes feel that Athlete O should have returned to play during the semifinal playoff game	1	2	3	4	5

Scenario 3:

Athlete R suffered a concussion. Athlete R's team has a physiotherapist on staff.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I feel that the physiotherapist rather than Athlete R should make the decision about Athlete R returning to play.	1	2	3	4	5
2. Most athletes would feel that the physiotherapist rather than Athlete R should make the decision about returning Athlete R to play	1	2	3	4	5

Scenario 4:

Athlete H suffered a concussion and has a game in two hours. He is still experiencing symptoms of a concussion. However, athlete H knows that if he tells his coach about the symptoms, his coach will keep him out of the game.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I feel that Athlete H should tell coach about the symptoms	1	2	3	4	5
2. Most athletes would feel that Athlete H should tell coach about the symptoms	1	2	3	4	5

SECTION 5

Think about someone who has had a concussion. Identify the following signs and symptoms that you believe someone make be likely to experience after the concussion.

- Abnormal sense of smell
- Abnormal sense of taste
- Amnesia (memory loss)
- Blurred vision
- Black Eye
- Chest Pain
- Confusion
- Dizziness

- Headache
- Loss of consciousness
- Nausea
- Nosebleed
- Numbness/Tingling in upper extremity
- Sharp burning pain in the neck
- Sleep disturbances
- Weakness of neck range of motion

APPENDIX E

ROCKAS-ST ANSWER KEY

Scoring key for RoCKAS-ST

<i>Section</i>											
<i>1</i>			<i>2</i>			<i>3</i>			<i>4</i>		
<i>Item</i>	<i>Correct Response</i>	<i>Index^a</i>	<i>Item</i>	<i>Correct Response</i>	<i>Index</i>	<i>Item</i>	<i>“Safer” Response^b</i>	<i>Index</i>	<i>Item</i>	<i>“Safer” Response</i>	<i>Index</i>
1	TRUE	CKI	1	FALSE	CKI	1	SD/D	CAI	1	SA/A	CAI
2	FALSE	NI	2	TRUE	CKI	2	SA/A	CAI	2	SA/A	CAI
3	TRUE	CKI	3	FALSE	CKI	3	SA/A	NI	3	SD/D	CAI
4	TRUE	VS				4	SA/A	NI	4	SD/D	CAI
5	FALSE	CKI				5	SD/D	CAI	5	SD/D	CAI
6	FALSE	CKI				6	SD/D	CAI	6	SD/D	CAI
7	FALSE	CKI				7	SA/A	CAI	7	SA/A	CAI
8	TRUE	CKI				8	SD/D	NI	8	SA/A	CAI
9	FALSE	CKI							9	SA/A	CAI
10	TRUE	VS							10	SA/A	CAI
11	FALSE	CKI									
12	FALSE	CKI									
13	TRUE	CKI									
14	FALSE	CKI									
15	FALSE	VS									
16	TRUE	CKI									
17	TRUE	CKI									
18	FALSE	CKI									

^aCKI = Concussion Knowledge Index; CAI = Concussion Attitude Index, VS= Validity Scale; NI = no index- item not part of any index. ^bSD/D = strongly disagree/disagree; SA/A = Strongly agree/agree

Correct Symptoms in bold

Abnormal sense of smell
 Abnormal sense of taste
Amnesia
Blurred Vision
 Black eye
 Chest Pain
Confusion
Dizziness

Headache
Loss of consciousness
Nausea
 Nosebleed
 Numbness/tingling in the upper extremity
 Sharp burning pain in the neck
Sleep disturbances
 Weakness of neck range of motion

APPENDIX F

SEMI-STRUCTURED QUESTIONS

Tell me about your typical day-to-day life like as a professional footballer?

Do you get noticed outside of games?

If so, what is the general reaction or conversation you have with those who notice who you are?

How would you define a footballer's migraine?

Would you play through a footballer's migraine?

How would you define a concussion?

What is the difference between a footballer's migraine and a concussion?

Would you play through a concussion?

Do you think there are any risks of playing through a concussion?

Compared to other injuries, how serious are concussions?

Do you think concussions are a problem in soccer?

If you sustain a concussion/footballer's migraine, when should you be removed from play?

How serious do symptoms of a concussion have to be before a player needs to be removed from practice or a match?

Who should decide if a player should be removed from a game for a concussion?

How long should a person with a concussion be out for?

Who should decide when a player can return to participation after a concussion?

Does match importance play a role in your willingness to report injuries/concussions?

Have you ever not reported an injury for fear of letting the team or teammates down?

Because of the substitution rules, are you more willing to play through injury knowing your team might need you or the substitution later on?

What do you think the manager's opinions are on concussions?

How does the opinion of the manager influence you reporting a possible concussion?

Tell me about fan support surrounding the team?

Is it positive/negative?

Any specific stories that come to mind?

How does fan support and opinion play a role in your likelihood to play through any injury?

How does fan support and opinion play a role in your likelihood to report a concussion?

What do you think are the fan's views of concussions?

Does your family play a role in your injury reporting?

Who are you most likely to report a concussion to?

If you suspected a teammate of having a concussion would you report it?

Have you or do you know someone who has hidden a concussion from a physiotherapist or team doctor in order to play?

What do you think your teammates views on concussions are?

What do you think are the views of concussions from the physiotherapist's perspective?

Do you know FIFA's concussion policy?

What do you think of FIFA's concussion policy?

APPENDIX G

TABLES AND FIGURES

Table 1. Concussion Knowledge Index

<u>Question</u>	<u>TRUE</u>	<u>FALSE</u>	<u>DNA</u>	<u>N</u>
1. There is a possible risk of death if a second concussion occurs before the first one has healed	18	8	0	26
3. People who had one concussions are more likely to have another concussion	1	25	0	26
5. In order to be diagnosed with a concussion, you have to be knocked out.	3	23	0	26
6. A concussion can only occur if there is a direct hit to the head	18	8	0	26
7. Being knocked unconscious always causes permanent damage to the brain	1	25	0	26
8. Symptoms of a concussion can last several weeks	23	3	0	26
9. Sometimes a second concussion can help a person remember things that were forgotten after the first	7	19	0	26
11. After a concussion occurs, brain imaging (CAT scan, MRI, X-ray etc.) typically show visible physical damage (bruise, blood clot) to the brain	19	7	1	26
12. If you receive one concussion and you have never had a concussion before, you will become less intelligent	0	26	0	26
13. After 10 days, symptoms of a concussion are usually completely gone.	14	12	0	26
14. After a concussion, people can forget who they are and not recognise others but be perfect in every other way	12	14	0	26
16. Concussions can sometimes lead to emotional disruptions	14	12	0	26
17. An athlete who gets knocked out after getting a concussion is experiencing a coma	2	24	0	26
18. There is rarely a risk to long-term health and well-being from multiple concussions	14	12	0	26
S2				
1. It is likely that player Q's concussion will affect his long-term health and well-being	7	19	0	26
2. It is likely that player X's concussion will affect his long term-health and well-being.	16	10	0	26
3. Even though player F is still experiencing the effects of the concussion, his performance will be the same as it would be had he not suffered a concussion.	3	23	0	26

Table 2. Concussion Attitudes Index

Question	SD	D	N	A	SA	DNA	N
1. I would continue playing a sport while also having a headache that results from a concussion	4	7	1	11	3	0	26
2. I feel that managers need to be extremely cautious when determining whether an athlete should return to play	0	0	5	11	10	0	26
5. I feel that concussions are less important than other injuries	9	11	6	0	0	0	26
6. I feel that an athlete has a responsibility to return to a game even if it means playing while still experiencing symptoms of a concussion	7	11	5	2	1	0	26
7. I feel that an athlete who is knocked unconscious should be taken to the emergency room	0	1	4	13	8	0	26
S4_1							
1. I feel that Manager A made the right decision to keep Player R out of the game	1	2	2	12	9	0	26
2. Most athletes would feel that Manager A made the right decision to keep Player R out of the game.	1	3	2	12	8	0	26
S4_2							
1. I feel that Athlete M should have returned to play during the first game of the season	10	11	4	1	0	0	26
2. Most athletes would feel that Athlete M should have returned to play during the first game of the season	9	11	5	1	0	0	26
3. I feel that Athlete O should have returned to play during the semifinal playoff game	8	11	5	2	0	0	26
4. Most athletes feel that Athlete O should have returned to play during the semifinal playoff game	9	7	7	2	0	1	26
S4_3							
1. I feel that the physiotherapist rather than Athlete R should make the decision about Athlete R returning to play.	1	3	5	8	9	0	26
2. Most athletes would feel that the physiotherapist rather than Athlete R should make the decision about returning Athlete R to play	0	3	4	10	8	1	25
S4_4							
1. I feel that Athlete H should tell the manager about the symptoms	0	1	4	12	9	0	26
2. Most athletes would feel that Athlete H should tell the manager about the symptoms	0	0	6	10	10	0	26

Table 3. 16 Item Symptom Recognition Checklist

SYMPTOM	Yes	No	DNA	N	Current Study
Abnormal sense of smell	1	24	1	26	96.0%
Abnormal sense of taste	0	25	1	26	100.0%
Amnesia (memory loss)	13	12	1	26	52.0%
Blurred vision	23	2	1	26	92.0%
Black Eye	3	22	1	26	88.0%
Chest Pain	0	25	1	26	100.0%
Confusion	23	2	1	26	92.0%
Dizziness	23	2	1	26	92.0%
Headache	25	0	1	26	100.0%
Loss of consciousness	20	5	1	26	80.0%
Nausea	16	9	1	26	64.0%
Nosebleed	4	21	1	26	84.0%
Numbness/Tingling in upper extremity	2	23	1	26	92.0%
Sharp burning pain in the neck	1	24	1	26	96.0%
Sleep disturbances	12	13	1	26	48.0%
Weakness of neck range of motion	11	14	1	26	56.0%

Figure 1. Themes Diagram

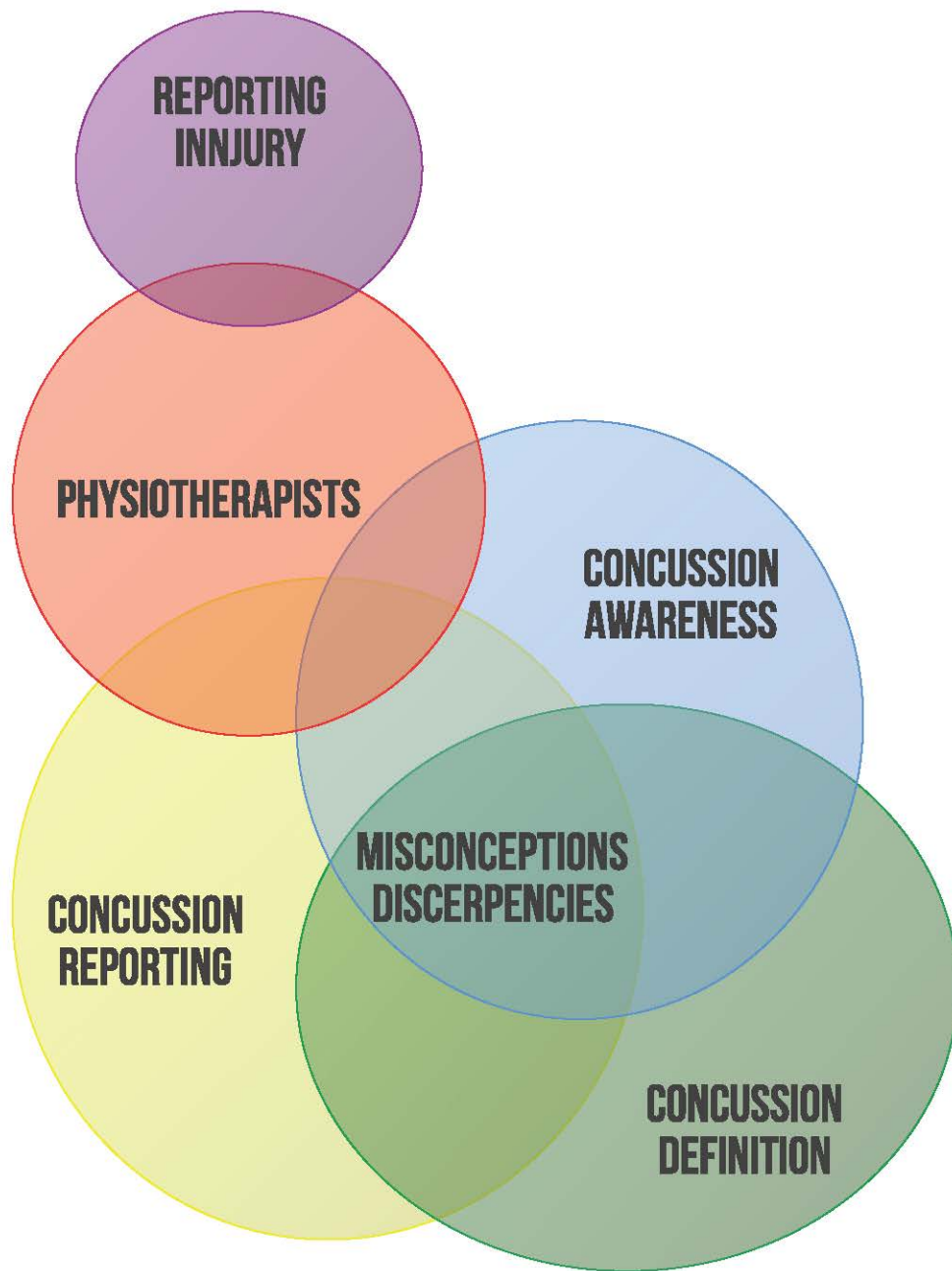


Figure 2. CKI Graph

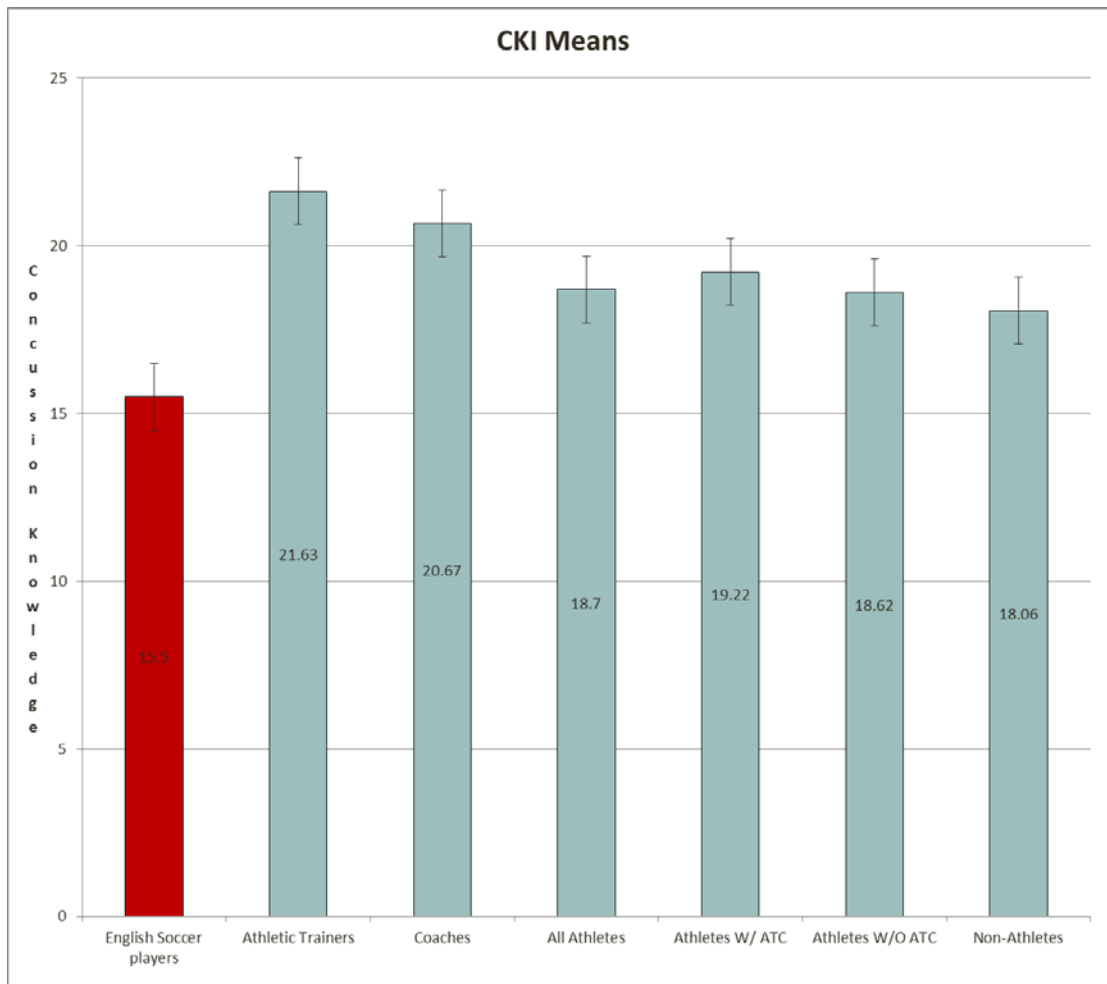
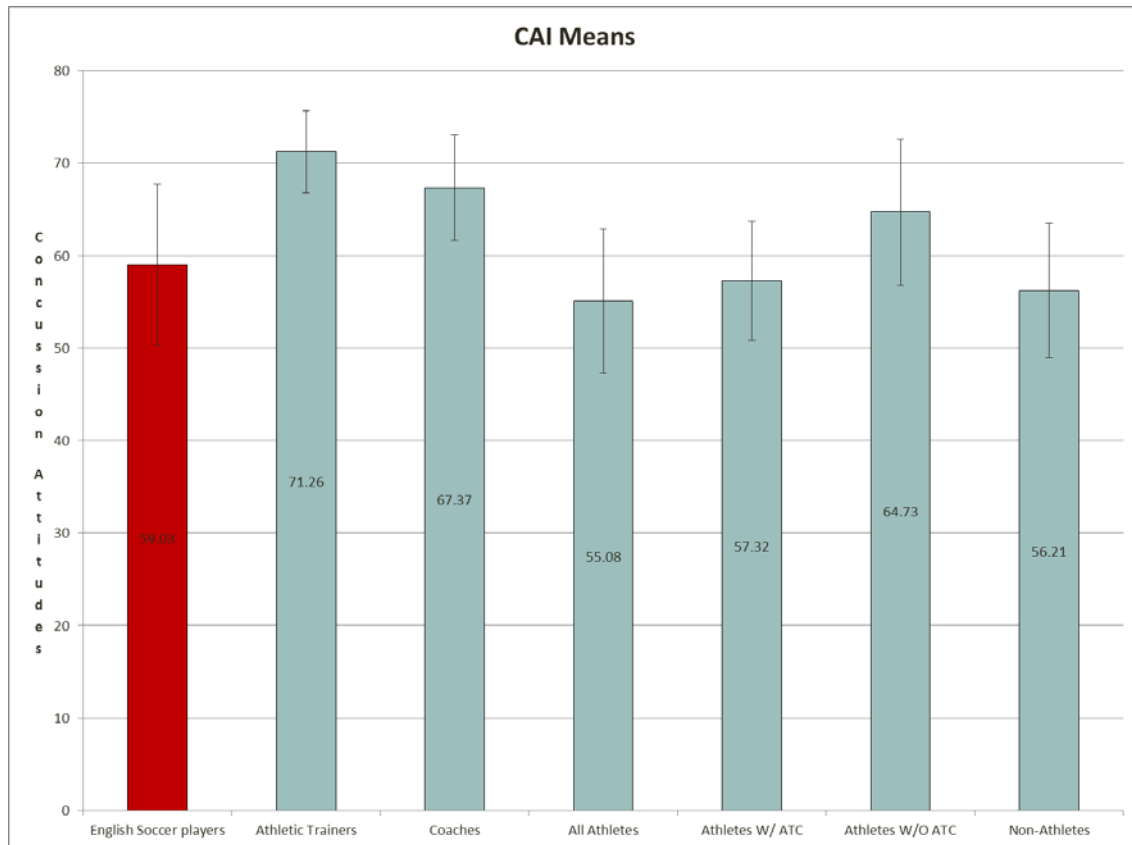


Figure 3. CAI Means



APPENDIX H

TRANSCRIPTIONS INDEX

1. Chase
2. Ryan
3. Nick
4. Andrew
5. Logan
6. Sam
7. Caleb
8. Dylan
9. Isiah
10. Tyler
11. Owen
12. Jason
13. Luis
14. Ian
15. Michael
16. Anthony
17. Aaron
18. Charles
19. Levi
20. Colton
21. Oliver
22. Carlos
23. Jaden
24. Will
25. Daniel

APPENDIX I

TRANSCRIPTIONS

CHASE

Interviewer: Can you tell me about your typical day to day to day life as a professional footballer?

Day to day life would be, get up in the morning come into the club, normally around half 8. Get some breakfast in here and start training by half 10. Finish me day for around I'd say, nowadays it would be about 3:00. And then throughout the day just like look for things to do or sometimes go back to me apartment and like just chill out for the rest of the day and get ready for the next day.

Interviewer: Do you get noticed outside of games?

Sometimes you might get like the odd like group of kids, or you might get one or two people speak to you. But, I wouldn't say, they don't, they're not too formal about coming over and speaking to you as much. I wouldn't say as much as people think.

Interviewer: How would you define a footballer's migraine?

A Footballer's Migraine? I'd define it as in... actually I wouldn't know how to define a footballer's migraine.

Interviewer: Could you explain kinda what people feel or how they get one or things like that?

Eh. I'd say, obviously in the morning times they could end up getting a slight bit of a headache and stuff and not feeling too well and probably feel a bit sick maybe like a bit lightheaded and stuff. So, maybe that's how I could explain it.

Interviewer: If you had one would you play through it?

If I had one, I'd speak to the physios first about it, and then I'd probably end up playing through it meself.

Interviewer: How would you define a concussion?

A concussion, I'd probably define a concussion where you get a blow to the head. Dazed, a bit of dizziness, feeling sick, and then getting checked out by a proper doctor and stuff make sure you're ok.

Interviewer: What's the difference between a migraine and a concussion?

I'd say, a concussion I think, for me personally seems more, more serious and severe than a footballers migraine.

Interviewer: What makes it more severe?

I'd say probably the effects of a migraine are probably less than what the effects of a concussion is because a concussion could mean more towards health than a migraine.

Interviewer: Would you play though a concussion?

Me personally, I don't know whether I'd play through a concussion. Obviously if I knew it was a concussion then obviously the, maybe the effects that it could have on you if you do end up playing through it. But, it all depends on what a doctor would say to me whether I got the all clear to play or whether he tells me to step out. I'd obviously take professional advice before I'd judge meself.

Interviewer: So do you think you would know, if you got hit on the field do you think you would know if you had a concussion?

No. I don't think I would know because before I've had like a smack to the head and for me, I just thought it was a smack to the head. Obviously, I couldn't remember certain things, went on and got taken off. So I'd go on probably someone else's advice rather than thinking by meself because I wouldn't know on the field what a doctor would.

Interviewer: So you said you've been knocked silly twice. What's the difference between being knocked silly and having a concussion?

To be honest I don't think there's probably much of a difference. Obviously, it was um, during a game and obviously, I felt like dazed and stuff so I thought I just like had a bit of a slight knock to the head. And then obviously the doctor looked over me and I didn't have many of the symptoms to what I've been told for a concussion. So that's the only way I knew meself. Obviously I didn't know any other difference so it was only through a doctor that I found out that I didn't.

Interviewer: Do you think there's any risks of playing through a concussion?

There could be many risks. I think the risk of probably getting smacked in the head again and if you get smacked in the head again, obviously you could get damage to the head, memory loss, and probably more severe stuff.

Interviewer: Compared to other injuries how serious are concussions?

I'd say they are just up there with the same as every other injury if not more. Because obviously if you could break your arm, you could do things to your muscles, tear your

muscles, but I think anything to the brain or major organs like that you'd have to kinda take more serious than to a bone really.

Interviewer: Do you think concussions are a problem in football?

I think so. I think they are starting to like kinda come to terms with it a lot more now obviously with Petr Čech when he got kneed to the head wears the new headband and stuff. So, I think they are starting to kinda, come together a lot more on it now.

Interviewer: If you sustain a concussion when should you be removed from play?

I think you should be removed straight away. Because, up until before like you could get symptoms later on in the day that you're getting concussion rather than instantly. So I think they are better of being cautious taking you off straight away than risking taking a chance.

Interviewer: How serious do symptoms have to be before a player should be removed?

I don't think they should be that serious. I think, once they get a blow to the head and if they feel dazed or dizziness or any kind of feeling sick I think they should be taken off straight away.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

I think it's down to the medical staff and also how the player feels because if the medical staff think he's ok but the player doesn't feel that he's up to it, it comes down to the player as well as the medical staff.

Interviewer: So a combination of the two?

Yeah

Interviewer: How long should a person with a concussion be out for?

Under being monitored I suppose, a couple of weeks. Make sure that everything is settled and everything is ok before I think they should even join back in training let alone back into a game.

Interviewer: So a couple weeks before they should even start training again?

Yeah

Interviewer: Who should decide when a player can return to play after a concussion?

Again I think it would be the medical staff. Obviously they would know more than a player that they'd know if it was severe or if it wasn't and I think if the medical staff or a doctor of the club should make that decision whether they should be back playing or not.

Interviewer: Does match importance play a role in your willingness to report injuries?

For like being, thinking for meself, I think for a player it does come down to that because if you're playing in a major game that you could either get spotted in or its gonna be a good game for your team where you could get promoted at some stage I think that comes into player's minds rather than reporting injury because obviously you want to play in every major game you can.

Interviewer: So it's important because you want to play in the big games to get noticed and get promoted?

Yeah, like if it's a cup final or if it's anything of the sort I think a player would rather play through an injury rather than report an injury and be out for that game.

Interviewer: Have you ever not reported an injury for fear of letting your team down?

I remember back in Ireland before I have. Like back in Ireland I know it's not as competitive over here but um once or twice I didn't report an injury and tried to play through it as much as I could.

Interviewer: Because of the substitution rules in that you only get 3 subs, are you more likely to play through injury knowing your team might need the sub later on?

I don't think that comes into it as such because if you're feeling an injury or if anything, I think you'd rather be taken off and if worse came to worse and the three subs got used up I suppose you'd still have to come off yourself. So I think from a personal point for a player, they'd rather play through any type of injury no matter what was going on but I think, I don't think it comes down to thinking of substitutions rather than themselves.

Interviewer: What do you think the manager's opinions are on concussions?

I'm not 100%. I think the manager would think the same as what anyone else would. If it is severe then obviously it's to deal with health, I think he would take that serious as what a player or medical staff would because obviously he wouldn't know as much as a doctor would so if he's getting advice by a doctor it needs to be taken off then I think he would have to listen.

Interviewer: How does the opinion of the manager influence you reporting injuries?

It does like influence it. At the same time, as a player yourself, you know your own body so even if you feel like a slight niggles and you play through it. But I think it's kinda half

and half because you want to stay in the manager's team so obviously it matters what he thinks and you want to play yourself but sometimes it's not possible to do both and you need to own up to it.

Interviewer: Can you tell me about fan support surrounding the team?

As in?

Interviewer: Just kinda tell me a little about the fans.

The fans for this club are brilliant. Like the turnout 20 odd 30 odd thousand maybe every week that you play. And it's like you walk around town they don't hassle you they just get on with their day to day and they are great for supporting the club and obviously when they come out every weekend they create a good atmosphere.

Interviewer: Does fan support and opinion play a role in your likelihood to play through injuries?

It can because obviously, when the fans are coming out in the thousands to see you, you don't want to let the fans down. But sometimes you have to kinda just, be honest with yourself and think of your own body rather than trying to help yourself for the fans so it kinda comes 50/50 both ways.

Interviewer: Does fan support and opinion play a role in your likelihood to report a concussion?

No. I think for me, if I was to get a blow to the head or if I had any kind of concussion, I think of myself more than anything because it's your own life at the end of the day and you have to think of yourself before you put a fan ahead of you or anyone in the club ahead of you. I think you have to think of yourself personally.

Interviewer: What do you think the fans views are on concussions?

I think they'd probably be the exact same. They know themselves that if a concussion ever happened to them or anyone in their family they'd be more concerned. So I think the fans would obviously love to see all the best players out playing. But, if he was stopped due to concussion I don't think they'd have too many complaints.

Interviewer: Does your family play a role in your injury reporting?

No because I think me family, well I suppose they do because me family would rather me report an injury and save meself short term than continue on with an injury and injury myself for long term. So they'd rather me report what I get and get it sorted there and then rather than trying to play through something silly that could end up getting more severe as I play.

Interviewer: Who are you most likely to report a concussion to?

I think straight away you'd report it to a physio or a doctor straight away. Whether you feel anything, I think you just report the slightest bit that you feel no matter to who.

Interviewer: If you suspected a teammate of having a concussion would you report it?

I think you'd have to go on what the player thinks himself. Obviously, I think you'd probably say something because at the end of the day it's a teammate and you have to look out for each other. If he doesn't want it to get said then you don't really know what to do but I think you'd rather say it than keep it and then something could go wrong.

Interviewer: Have you or do you know someone who has hidden concussion from a physio or team doctor in order to play?

No I've never heard of that.

Interviewer: What do you think your teammate's views are on concussions?

I think they would be the same as anyone else. They just think a concussion is, would be severe and that you couldn't really continue on. Or if they were to feel a bit of a concussion, they need to report as soon as.

Interviewer: What do you think the physios views are on concussions?

They'd be very cautious about it obviously if you get a bang to the head. They'd be the first to say you had to step off and they'd check you out thoroughly before they even let you think about stepping back on the pitch. They'll come and they'd take it into their own hands to stop a player.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your concussion knowledge from?

I suppose when I've had one or two smacks to the head. You listen in on talk whether to say does he have certain symptoms for a concussion. So I think from me own personal point in not having a concussion but kind of being having a blow to the head I think has got me some sort of knowledge on it.

RYAN

Interviewer: Can you tell me about your day to day life as a professional footballer?

I can yeah. Training starts about 10. Have a couple of hours training. And then after that go home and have a bit of a breather. Then start the next day.

Interviewer: So training, do you usually, once a day?

Once a day Monday, Tuesday, Wednesday, and Fridays. And that's just for a couple of hours. Then you play on a Saturday and you'll have Thursday and Sunday off. Completely nothing at all.

Interviewer: Weight training sessions?

That's down to each individual. I don't really do much weight training but some of the lads will do an hour a day depending on obviously preferences.

Interviewer: Do you get noticed outside of games kinda in general public?

Yes. Around here but not if I'm not around (City) or (City) then no one will recognize you really.

Interviewer: Do you interact with fans? Do people come and talk to you? Do you get left alone?

Depends on the fans. Some lads kind of and the girls will see you and kind of you know that they're talking about you and other lads will just come up and fuckin chat straight away.

Interviewer: Generally positive conversation? Depends on the weekend result?

Yeah depends on the weekend. Depends about the guy whether he's pissed up or not but yeah they are usually quite positive. But not every player is as lucky as me. They can be idiots sometimes, just depends on the person.

Interviewer: How would you define a footballer's migraine?

I don't know I've never used migraine. I have a headache or I feel sick but I don't know what a migraine is.

Interviewer: How would you define a concussion?

A blow to the head where you can either be knocked out or still be awake but lose some sort of consciousness. So whether they are feeling dizzy or forget stuff of just a good

blow to the head where I suppose day to day life is a little bit different and they are unable to do certain functions probably.

Interviewer: Would you play through a concussion?

If I felt like I could then yeah. But I'd probably leave it in the physios hands but if they said I was right to play on if I wanted to, then I would do.

Interviewer: Do you think there's any risks of playing through a concussion?

I fully expect so yeah.

Interviewer: Compared to other injuries how serious are concussions?

I suppose it depends on how bad the concussion is. I'm guessing it could be pretty severe where you know you're shot straight off to a hospital and had to check your brain scans and stuff like that. Or you know, I'm guessing most concussions they'll have to take you off to the hospital anyway. So pretty severe I'd say.

Interviewer: As opposed to ankle sprains?

I think you can diagnose muscle injuries, ligament injuries, and they can kind of deal with that internally at the club. But I'm guessing brain, any sort of hemorrhages or concussions will have to go and see a specialist. Some, you know the severity probably. But maybe not as long term for some of them but for an instant injury I'd have thought it'd be a lot more severe.

Interviewer: Do you think concussions are a problem in soccer/football?

Yeah. Yeah. You know I don't tend to see too many but it's definitely definitely you do see quite a few throughout the season. And obviously, you play any contact sport you've got to expect stuff like concussions.

Interviewer: If you sustained a concussion when should you be removed from play?

I would expect straight away. But I suppose it's down to the physios and the player themselves. But, you know, I'm guessing if you know you're concussed you'd have to come off and go seek more specialist medical advice.

Interviewer: How serious do symptoms have to be before you'd be removed?

I don't know how serious the symptoms have to be. But I would have thought if they got any sort of idea that it's gonna be a concussion then, they should be taken away straight away rather than, you know, the severity of the symptoms obviously.

Interviewer: Does that change in practice vs. game day?

No it should be the same if you're out there and you've got the same sort of problems as you are on the pitch I would expect it to be treated both exactly the same.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

The physios or medical staff. I think they are the ones that are qualified to make that judgment call. It's down to them.

Interviewer: How long should a person with a concussion be out for?

As long as the medical staff say so. I don't know how long it is before you're allowed to be back involved again but I would have expected at least probably 4 or 5 days before you're allowed to do stuff again. But obviously I'm not medically trained so that's just a guess.

Interviewer: By medical staff you mean physios? Team docs?

Physios and doctors. And then obviously once they send you through for a scan or whatever you need to do at the hospital I'm guessing it comes from them.

Interviewer: Who should decide when a player can return?

Same again. The staff at whatever hospital you've been to visit they'll probably speak to the physios and probably decide it between themselves and then obviously let the player know when he's allowed to play again.

Interviewer: Does match important play a role in whether or not you're going to report a concussion or other injuries in general?

Yeah well it's important to each individual player I would say. Concussion wise, I'm pretty sure that both myself and every other player would mention if we were feeling like we were concussed because we know of how serious it can be. If you've got a strain or a muscle problem a lot of us will probably keep it quiet because we want to play in the games and don't want to miss it through and injury. So yeah it's slightly different but ya know if were struggling with concussion I'm pretty sure everyone would mention it.

Interviewer: So if it was just an ankle sprain or something like that and it's the beginning of the season not a big deal?

If it's beginning of season before the season starts they would probably come in and get themselves sorted. If it's a day before a game, they'd probably get through it and try to get through the game and then mention it after the games finished.

Interviewer: Have you ever not reported an injury for fear of letting teammates down?

Yep. Many times!

Interviewer: Because of the substitution rules in that you only get 3 in a match, are you more willing to play through injury knowing that maybe later on in the second half your team might need the sub?

If I think I can get through the game, I'll play through any injury really. So I think the subs are irrelevant, if I start the game I expect to finish it.

Interviewer: What do you think the manager's opinions are on concussions?

He'd probably say you're soft as shit if you come off. But if it's serious and it's a concussion then, he's got to, I suppose, have to rely on the physios making the right call. I don't think it's down to the manager's thoughts or views. I think it's down to the medical staff and they should go above him on making decisions like that.

Interviewer: How does fan support play a role in whether or not you'd report an injury or a concussion or anything like that?

I think for me personally, I think it's slightly irrelevant. I think you've got a decision to make for yourself and the, probably teammates and the manager are the people I would consider. I wouldn't play through something for the fans. I suppose you put yourself at risk and put yourself in the firing line really if you're injured and you can't give 100%. It's your decision and you've gotta expect criticism if you're not playing particularly well whilst injured. But I wouldn't play because I'm worried about letting the fans down.

Interviewer: What do you think the fan's views are on concussions?

I would say the same. I think if everyone knows that someone's concussed I think they expect everyone to come off the pitch. But that's only what I think. I don't really. I think that concussion are deemed quite serious.

Interviewer: Does your family play a role in your reporting of injuries?

No. It's down to me and me only.

Interviewer: Who are you most likely to report a concussion to?

Physio staff. The physio, medical staff. I think you kinda have to put the ball in their court really of something when it's like a concussion.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yeah. Definitely. I think if you found out and with all the other lads, they would have to, I think the right thing to do is to report it whether they want to play or not.

Interviewer: Would you report it during a game if it happened during a match? Or if it happened maybe during the first half would you report it at half time or after the match?

No straight away. If I knew that he was concussed and he told me he was concussed or whatever or I was worried about him I'd go straight over to the physio staff and tell them.

Interviewer: Have you or do you know someone who has hidden a concussion from a physio or a team doctor in order to play?

I don't think so no.

Interviewer: What do you think your teammates views are on concussions?

I think its personality again. Some lads will be similar to me. If someone gave me the all clear to play with a concussion then I would play. If, you've probably got half the lads that would do that. The other half would say, well if I got a concussion I'm not playing whether you think I can or not. It's just, I suppose down to each individual person. But I'd probably say half the lads would be similar to me in the team.

Interviewer: What do you think the physiotherapists views are on concussions?

I expect and I do believe that would be extremely serious about them. I thought if you got a concussion I would expect them to pull you out and not let you play and kind of take the choice away from you.

Interviewer: Do you think they think they are a big problem? Something we don't need to worry about?

I think they think it's a big problem. Duration, you know I think at that time if you're concussed I don't think they'll let you play. I don't think they'd even consider letting you play.

Interviewer: Do you know FIFA's concussion policy?

Not got a clue.

Interviewer: Do you know the EPL's concussion policy?

Not got a clue.

Interviewer: Where did you get your concussion knowledge from?

I don't know whether it is actually is knowledge or not I'm just guessing. Guessing what I probably would believe myself.

Interviewer: So just from personal experience?

Yeah

NICK

Interviewer: Tell me about your typical day to day life as a professional footballer?

Dunno, wake up, have breakfast. Come in. Get me training kit on. If I have any sort of niggles or need me back stretched I go to the physio. Go train half 10. When we're finished come back have lunch. Just sort of chill out, watch telly, play pool or something. Then go in and do some weights. With preseason we go back out and train. Then just sorta do what I want in the evening. Watch telly, go to pictures, go bowling, anything.

Interviewer: Do you get noticed out in the public?

Yeah sometimes you do.

Interviewer: What are the reactions you get from people?

Just sorta like, they say who I am and ask for a picture or something.

Interviewer: So do people normally approach you and talk to you?

Sometimes.

Interviewer: So it just depends on?

It depends on who you are and if they are like say a fan of the club or something they'd obviously know. Sometimes you can just sorta see them saying like, that's (Name) or else they'd like, ask for a picture or just walk on.

Interviewer: How would you define a footballer's migraine?

What's a migraine? (In the back ground from a physio- "a headache") Dunno I've never had one in me life. Or I don't think so. I don't think I've had one.

Interviewer: How would you define a concussion?

Sore. It's a bit weird, freaky. I said I've had one, well I think I've had one before. Well I did actually. It's a bit weird. Like, a sort of like, went up for a header and then I sorta heard a sort of loud ringing noise and it was like, just blackness. And then I opened me eyes and just, I didn't know what was happening. I didn't like, they would ask me questions like, what happened a few days before and I didn't know what had happened. Then they asked me like, what age am I, and I sorta really it was like, didn't know what to say. And then obviously I had a bit of a headache, well not a headache but me head was pounding that day, so I felt a bit sick as well.

Interviewer: Would you play through a concussion?

Well I went to get up but, I wasn't able to. I don't think it'd be sorta like clever to play through it.

Interviewer: Do you think there's any risks of playing through it?

I'd say so yeah definitely. Like there's brain risks or any health risks.

Interviewer: What kind of risks do you think there are?

Obviously it can affect the way you think and so, I don't know if that could be long term or not. You could just, dunno, you could probably just drop to the floor and bang your head again, anything could happen.

Interviewer: Compared to other injuries how serious are concussions?

A lot of injuries are serious but obviously concussion could have, could affect the brain, so probably a bit more serious.

Interviewer: Do you think concussions are a problem in soccer?

Yeah. Obviously people get concussions during football like training or playing matches. So, it is a problem yeah.

Interviewer: Do you think they are common in soccer?

Yeah, could be common alright. I'd say like I've seen it happen to a few people they've been knocked out, or have a concussion.

Interviewer: If you sustain a concussion when should you be removed from play?

Immediately.

Interviewer: How serious do symptoms have to be before you should be removed?

I don't know. Could be even just slight symptoms, but I don't think you should take the risk.

Interviewer: Who should decide if a player should be removed?

Physio. Player sometimes but they might not be thinking right as well.

Interviewer: Just to go back, you said if they had mild symptoms. What would you classify as mild symptoms?

Dunno. Obviously the physio would know like if they've got only like, say if they've only got one symptom or something. I think they should still be pulled out instead of having like five symptoms, I think it's still the same.

Interviewer: How long should a person with a concussion be out for?

At least a week, or as long as the doctor gives them the ok I'd say.

Interviewer: So as long as the doctor gives them the ok to return? Or the doctor should determine how long they are out?

Yeah, the doctor should determine.

Interviewer: Who should decide when they can return? Doctor or physios?

Doctor or physios yeah.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah sometimes. Obviously if you are injured like you're gonna have to like go on and so I get help or something. The physios will know like how bad it is and just pull you out if it's very bad. Some injuries you can sort of play on but like but.

Interviewer: Does that change from preseason to the end of the season?

No I think it'd be the same.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

No

Interviewer: Because of the substitution rules, are you more willing to play through an injury knowing your team might need the sub later on, or have to play with 10 men?

Not really, like if I get sort of a niggle I'll try and run it off but if it doesn't sort of go, like if it's still sore then you'd tell them.

Interviewer: What do you think the manager's opinions are on concussions?

I'd say it's serious as well yeah. I'd say like, once it's a concussion like it has to be sorta dealt with in the right way.

Interviewer: Do you think your manager's opinions influence you reporting a possible concussion?

No. It's sort of important like obviously if you have something wrong with you, you just report it no matter what.

Interviewer: So you said fan support surrounding the team is pretty good for the most part. Any specific stories that come to mind of your interactions with fans?

The other day I was in the jewelers, some kids came in and asked for a picture. That was it really.

Interviewer: Does fan support and opinion play a role in your likelihood to report injuries?

No. Like if I'm injured I'm injured I'd just tell the physios. I wouldn't let the fans determine what I do.

Interviewer: Is it the same thing for a concussion?

Yeah, if you are injured you just tell people.

Interviewer: What do you think the fans views on concussions are?

Dunno. I'd hope they'd think it was serious but I dunno. Probably some will think like ah just get up and get on with. But I'd say if it happened to them they'd probably pull out.

Interviewer: So you think that their views of you guys is that you should get up and continue?

Probably yeah depends I'd say. If someone gets knocked out bad, I'd say the fans are just hoping he's alright. But I'd say probably their views could be just, bring someone else on. Obviously if they've got a concussion they need to be off.

Interviewer: Does your family play a role in your injury reporting?

Nah.

Interviewer: Who are you most likely to report a concussion to?

The physios I'd say. Physios or the doctor.

Interviewer: If you suspected a teammate of having a concussion would you report it?

I'd tell him to report it yeah.

Interviewer: But would you report it?

I don't think I'd need to. I'd say most of the lads would like if they got a concussion they'd just tell.

Interviewer: Have you or do you know someone who has hidden a concussion from a physio in order to play?

Nah. Can't remember if they did.

Interviewer: What do you think the views of concussions are from the physios?

I'd hope they'd think serious (name). Nah I'd say serious yeah.

Interviewer: More serious than other injuries? Less serious?

I'd say every injury is serious, but yeah probably a bit more serious.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your concussion knowledge from?

Don't know. I'm sorta just going with the flow now. Making it up like. (Physio - He gets his knowledge from when he gets a whack on the head and we tell him what to do.) To be fair, probably when I got a concussion. I got to see what I had to do myself. I couldn't train for a few days.

Interviewer: You're saying that someone has to be knocked out for them to have a concussion?

No, I was knocked it but it was only for a few seconds. But like, the doctor sort of checked out the symptoms and said I had a concussion and like I couldn't train for like I think it was 5-6 days. They just made sure that I felt alright after a few days and they still said no just to be on the safe side. It's serious enough.

ANDREW

Interviewer: Can you tell me about your typical day to day life as a professional footballer?

Basically I wake up in the morning. Have breakfast. Come in to train. Train football. Do a run. Weights in the afternoon. Then go home, eat. And that's it really then.

Interviewer: Do you get noticed outside of games?

Some places you do but like some places as well you don't. So, in (City) basically like people will know you but in my town like not many people really know about it.

Interviewer: So people that notice you out in (City), do they talk to you, do they leave you alone, what's kind of their reaction?

Some people come and talk to you. Some try and leave you alone like get on with your life basically you're not in football at the time so. Mixed emotions with people. Some people like it to talk to you and see how it's going. Some will walk by and just say hello.

Interviewer: It just kind of depends on the day.

Yeah it depends on the day. If it's a fan, a fan will probably come up to you but if it's a normal person that probably just sees you in the paper or something like that then they will probably just walk like the same as like I figure but will just leave you alone.

Interviewer: How would you define a footballer's migraine? Or can you explain it?

Not really like, it's weird really like. Everyone, all footballers are the same I'd say really. But I don't know really how to put that one.

Interviewer: How do you define a concussion?

I've not really had one myself but I know people that have had them and they says it's not like a good thing really. Like, on the pitch you don't know where you are or the time or when you're playing football and stuff like that. It's not a good thing but it has happened doesn't it and in other sports.

Interviewer: If you got one would you play through it?

If I had one then yeah I'd play through it I think. I'd carry on and see how it goes. But if it, at the time it was bad then I'd want to come off because, at the time I'd want to come off because it's your life at risk as well.

Interviewer: So you think there are risks?

There are risks in concussion. But it's your own choice as well and the manager's choice if he wants you to carry on as well and up to the physio. But there is risk in concussion like stuff can happen in the future.

Interviewer: Compared to other injuries how serious do you think concussions are?

Serious but I'd say other injuries are probably more serious in football and in other sports. So, but, because it's your head, like, and near on your temple and places like your brain, it can cause problems in the future. So it's a risk, but and it's serious but I'd say some, more injuries in football would probably be more serious.

Interviewer: Like what other injuries are you thinking of?

Probably knee injuries, leg injuries because you're using them more and more at the time in football.

Interviewer: Do you think concussions are a problem in soccer/football?

Yeah they are you see a lot of them on the telly like people going down with concussion and stuff but it's part of the game really so it's going to happen. But, it is a big thing in football now.

Interviewer: If you sustained a concussion when should you be removed from the game?

I'd probably say at the time when you've got it really. Like, as soon as you've gone down and you can't really, well you've gone black, got blacked out. So at that time you should be really coming off the pitch because you're putting your own life at risk.

Interviewer: So to sustain a concussion someone needs to be knocked out, like unconscious?

Not really. You get some concussions like you ain't been knocked out but you've gone dizzy and you forgot where you are and stuff like that.

Interviewer: So you said you would try and play through one, how serious would your symptoms have to be before you would come off?

Probably if you can't remember where you are like if you don't know you was playing football, didn't know who you were playing for and stuff like that. It'd have to be very serious.

Interviewer: So memory loss?

Yeah if I had memory loss yeah.

Interviewer: Who should decide if a player comes off?

The manager and but the physio as well because he knows how the player will be after and he knows what could happen to the player. So I'd say the physio has a choice but the manager does as well.

Interviewer: How long should a person with a concussion be out for?

I have no clue. I'd say a probably a week, two weeks for them to get over it and see how they are. See how they are feeling and stuff like that but I'd say about a week to two weeks.

Interviewer: Who should decide when the player is going to return?

Well self, they should know how they feel themselves but, the physio should know how they feel so it's up to, they could tell the physio how they are but the physios know more about what's happening so I'd say the physios but it's up to the player's choice as well.

Interviewer: Does match importance play a role in your willingness to report injuries?

Not really. Injuries can happen anywhere. You can walk down the street and go over on your ankle and stuff like that. But, playing in a match and stuff, you're likely to get injured but not all the time. You don't really see many injuries, bad injuries, now a days. So, you do it in training anyway can't you, injuries.

Interviewer: But if it was a big match and you were injured, would you tell someone, or would you try and finish or would you try and?

I'd probably try and finish. You won't want to tell anyone because it's a big game but if it was that bad and you're going to let the team down you'd probably have to tell someone like how you're feeling and it's hurting and stuff like that.

Interviewer: So if you had the same injury and it was a big game versus a preseason game are you more likely to tell someone in the preseason game versus the big game or does it matter?

It doesn't matter. In the big game, I'd probably tell them about the big game to be honest because you don't want to let the side down if you're injured and stuff like that. But in preseason you can try and get through it and see how it is.

Interviewer: Have you ever not reported an injury for fear of letting your teammates down?

No. If I'm injured I've basically told them. But I've never really been injured myself so. Like one injury and I had to come off the pitch. But I don't think I'd do it. I'd rather tell the physios. See how they think I am. And if they say it's alright to play then I'd play but if it's not I'd listen to them.

Interviewer: Based on the substitution rules and that you only get 3 substitutions, does that change whether or not you would tell someone? If your team had necessarily used 2 subs, are you more likely or less likely to report an injury based on the substitution or knowing that your team might need the substitution later on?

Not really. If you had a couple subs left and you're feeling it you can tell them and you can come off. But if there's no subs left, can't bring no one on you got to try and get through it. But say there's 2 subs left to come on and it was hurting, you can tell them and just come off.

Interviewer: So you might tell them or you might not tell them depending on?

Depending on how many subs left. If there's subs left, you'd probably tell them.

Interviewer: But if there's not you would just play through?

Yeah you'd have to get through it.

Interviewer: You wouldn't bring your side down to 10 men.

No no no.

Interviewer: What do you think the managers opinions are on concussions?

I don't know.

Interviewer: Do you think he thinks they are serious? Or not a big deal?

Yeah he thinks it's serious. But, if he thinks you could play through it then he'd try and probably get you to play through it. But, it is a serious thing. Everyone knows it so, I'd say he would want you to come off and see a doc to get through it.

Interviewer: Does his opinion influence whether or not you'd report a concussion at all?

Not really I'd say so.

Interviewer: So you said generally interactions with fans out in the public, generally positive. People are usually pretty nice to you or they will leave you alone?

Yeah yeah, you get some people who probably come up to you. Myself I've never really had people come up to me so I'm alright. But bigger players might get em coming up to them.

Interviewer: So have you ever had any specific interactions that you remember were great or horrible?

What with the fans?

Interviewer: Yeah

Not really No. None like that.

Interviewer: Does fan support and opinion play a role in whether or not you'd report an injury?

No because if you're in pain it's up to you to tell a physio. You can't really play through it if you're not at your full ability to be honest. So you've got to look on your own side and take care of yourself really.

Interviewer: Is it the same for if you have a concussion? You're not worried about letting down the fans or anything like that?

No because, obviously you want to play for the club and the fans they are on your side and that but if you can't do it, it's going to make you feel worse in the future, you gotta think of your own life and stuff like that really before everyone else. So I'd say I'd tell the physio first before I'd go out there and play.

Interviewer: What do you think the fan's views are on concussions?

I don't think the fans would want people to play really if they knew he was concussed because obviously he ain't gonna be up for the game really up for it. He's gonna be thinking about his head really. He won't want to go to head the ball because, just in case he gets another head injury. So I think they would want the player to stay off the pitch more than some others.

Interviewer: Does your family play a role in whether or not you report injuries?

Yeah, because I don't think your family would want you to go out there and not play at your best to be honest. They want you to go out there and do well all the time. So if they knew you were slightly injured or had something wrong I think they would tell me as well to go and tell the physio.

Interviewer: Who are you most likely to report a concussion to?

Physio, then you'd tell the doctor at the club. So you'd let the physios know first and then they'd let the doctor come in and see you see how you are.

Interviewer: If you suspected a teammate of having a concussion, would you report it?

I'd ask him if he wanted me to. But if he didn't want me to then, I couldn't do it it's off his own back. He should think of his future his self and stuff like that. So, I'd want to tell the physio, but it's not my choice at the end of the day. It's up to him.

Interviewer: Have you or do you know anyone who has hidden a concussion from a physio or team doctor to play?

No no none at all. I don't really know many people who have had concussion while I've been at football. So no not really.

Interviewer: What do you think your teammates views are on concussions?

I think everyone is the same. I think everyone knows it's a big thing and they wouldn't want it to happen to em because it's not nice at the time if you've been concussed on the pitch. But I think everyone would get everyone through it and look after each other and would want to tell the physios but obviously it's up to the player's choice as well. But everyone knows concussions are a big thing in football.

Interviewer: What do you think the physios views are on concussions?

Like the same really. They know it's a bad thing and wouldn't want the player to carry on. They'd want him to sit out a couple of weeks rather than go out there and make it worse.

Interviewer: Do you know FIFA's concussion policy?

No.

Interviewer: Where did you get your concussion knowledge from?

Just generally knowledge really. Like when you're playing football you know about it and when you're at school and stuff like that you have to do stuff at school about concussion. I've done a first aid course as well and they tell you about it so you pick it up.

LOGAN

Interviewer: Can you tell me about your day to day life as a professional footballer?

Usually involves getting up just before 9. Have some breakfast. Get ready really. Come here for about half 9 or 10 maybe. Training usually at half 10. Finish by 12 or half 12 depending on what we're doing. Eat lunch. Then sometimes we'll do another session or maybe we'll do a bit of weights. And then usually just got home after that. You just, you know chill out at home, eat dinner, and go to bed really.

Interviewer: Do you get noticed outside of games?

Not me personally no. But I know people would.

Interviewer: You know people but you don't?

No I don't personally no.

Interviewer: How would you define a footballer's migraine?

Migraine? Like if they got hurt in the head?

Interviewer: How would you explain it? If somebody had never had one before how would you explain it?

Oh. I'd say it feels like you're slowly going blind almost. You know? Sort of, darkness closes in almost. You sort of lose the outside of your vision and it comes right in. And then, I think you might go unconscious, I don't really know. I think before I've woken up or I imagined it. It's a headache as well. You end up with a severe headache as well. That's what I'd say.

Interviewer: If you had one would you play through it?

No because you feel when it's coming so I wouldn't.

Interviewer: How would you define a concussion or explain what it is?

Well you take a blow to the head or maybe neck area as well I'm not really sure. And I guess it's just some sort of damage to your brain. That's all I know really I don't know a lot about it. But I imagine you see sort of stars maybe. No like I said I don't know.

Interviewer: Any other kinds of things besides seeing stars or anything like that that you can kind of associate with?

A concussion? Oh so dizziness and you might lose short term memory possibly if the incident. Depends on where you've been hit as well. You might have a black eye or something, nose bleed something like that.

Interviewer: How would you explain to someone the difference between a migraine and a concussion?

I'd always thought a concussion was because of a blow to the head. That's really the difference I would imagine.

Interviewer: If you had a concussion would you play through it?

No

Interviewer: Do you think there's any risks of players playing through concussions?

Yeah

Interviewer: What kinds of risks do you think?

It might sort of further damage. I did it once sort of and then realized you couldn't do it so I had to stop. I wasn't like really aware that I had a concussion sort of thing. It sort of felt like it came on afterwards once I started going again. So then after that, because I started to get a bit sort of confused. That was when I knew I would have to stop really.

Interviewer: Can you tell me kinda what the situation was around it?

I just got hit in the head with the ball. I was in the wall during a free kick and got hit in the head with the ball. I don't really remember but I remember, I've seen footage of it. I literally just got hit in the head and fell to the floor. I don't really remember. I remember them coming and then when the physio came. That's what I remember. Then I played on and as I say, it felt like it just got worse. Got a bit sort of dizzy and a bit confused, felt a bit sort of, off. So I came off.

Interviewer: Do you remember how much longer you played on before you came off?

Not long.

Interviewer: 5 minutes?

Yeah 5 minutes or less maybe.

Interviewer: Compared to other injuries how serious do you think concussions are?

I'd say very serious. It's damage to your brain. Damage to you brain is obviously, takes more to repair doesn't it than if you had a hamstring injury or something.

Interviewer: Do you think concussions are a problem in soccer/football?

They can happen whenever. There's always the possibility. There's probably more of a possibility than other injuries. It's just unlucky really it depends what happens in the game. As long as people are trained and know what to do in the event of one, then it should be fine really.

Interviewer: If you sustain a concussion when should you be removed from play?

Straight away probably. If you know that it's a concussion.

Interviewer: How serious do symptoms have to be before you should be removed?

As a player I'd say noticeable. So if you notice that you've had one. You might not know that you've had one. But once you start to notice then obviously.

Interviewer: So once it starts affecting your performance?

Yeah. Well not performance. Once you start effecting how you're feeling sort of thing. Like the physio would probably know. But if I didn't know I had a concussion, and then as soon as I started to feel a bit sort of dizzy maybe then I'd probably realize that I had one and that would be the time I would stop I think.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

The physio surely I'd say, or I'd think.

Interviewer: How long should a person with a concussion be out for?

I've always thought it was 2 weeks. I don't know why. I just.

Interviewer: Just an arbitrary number?

That's just like something I think I've heard. It might be 2 weeks it might be 30 days. I can't remember. Something like that 2 or 3 weeks maybe 4 weeks.

Interviewer: Who should decide when a player can return to play after a concussion?

Physio I guess. What to return in the same game?

Interviewer: The same game, whenever?

Oh, probably, oh a doctor really. You'd probably go and see a doctor. So yeah I'd say a doctor.

Interviewer: So if it was the same game a doctor but if its two weeks later who should decide?

You'd know as a player how you feel. But I don't think that's always. As a player you feel like you want to play, you want to be ready. But, you might not actually, you might just be wanting to play rather than being sensible sort of thing. So I'd say physio or doctor again yeah.

Interviewer: Does match importance play a role in your willingness to report injuries?

Me personally? What any injury?

Interviewer: Yeah any injury.

I would always be a bit hesitant because I always feel you don't really wanna miss out. But you know personally how it feels. So you should be able to sort of judge. You should report it really but if you feel that you'll get through it fine, then I just do it anyway.

Interviewer: So would that change if it was a big game versus a preseason game?

I wouldn't say so. No. Well there might be a bit more hesitance to tell of an injury before a big game but if you knew it was going to affect you you'd have to tell someone.

Interviewer: Have you ever not reported and injury for fear of letting your team down?

No. I mean touch wood, I haven't had that many injuries. But I would report it before a game yeah.

Interviewer: Because of the substitution rules and that you only get 3 subs, are you more willing to play through an injury knowing that your team might need the sub later on?

Yeah probably I'd say. Whether it's the right thing to do or not might be a different story but. I'd probably try to. If it became too bad then obviously you'd have to come off but I'd at least try.

Interviewer: What do you think your manager's opinions are on concussions?

I'd like to think that they would be sort of cautious about putting someone back on or anything. They probably don't know as much as physios and doctors and stuff but no one does really. No I think they would respect them sort of thing if you know what I mean. And not put someone back into the game after one.

Interviewer: Does the manager's opinion influence whether or not you'd report a concussion?

I'd always report a concussion because it's a brain injury. You know it's your brain.

Interviewer: Ok what about injuries in general? Manager's opinion play a role on whether or not you'd report any injury?

You might not want to seem like you're always injured. If you report something every couple of days, you know, you might start a reputation of always being injured and that's not always a good thing. But if you're getting bad injuries obviously then I wouldn't care. But small little things I just try to keep to myself.

Interviewer: Can you tell me about kinda fan support surrounding the team here?

There is a lot of support for the team. They always come in a lot of numbers every week. About 30,000 usually. There's a lot of support.

Interviewer: So people are generally positive?

Yeah I'd say so.

Interviewer: Does fan support or opinion play a role in your likeliness to play through an injury?

I could understand why people would play through injuries. You're on a bit of adrenaline as well and the fans expect a lot of you. So I would understand if people felt that way. But I think if you've got an injury that you feel it's too bad to continue you should stop regardless. Especially if it's effecting your performance because then if we're talking about fans, the fans are only gonna see you playing at half your capability. So I think it should be reported anyways.

Interviewer: How does fan support and opinion play a role in your likeliness to report a concussion?

Me personally it wouldn't. I would just report it.

Interviewer: What do you think the fans think about concussions? What are their views or what do you think they feel about them?

I think they would understand and know that, well I'd hope that they'd understand and know that you shouldn't play on from it. Some might obviously want to see you continue. But at the end of the day it's a concussion and you shouldn't really play through it.

Interviewer: Does your family play a role in your injury reporting at all?

Not really.

Interviewer: It's your decision?

Yeah it'd be my decision completely because they don't know exactly what it feels like so.

Interviewer: Who are you most likely to report a concussion to?

On a day to day here?

Interviewer: Yeah

Probably, well definitely one of the physios, maybe the head physio. And then, is the doctor not here every day then? But if he was here then definitely the doctor. But yeah at least a physio head physio.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yeah. What if they were playing on sort of thing? Yeah

Interviewer: Or if they came to you after the game and said something would you tell the physios?

Yeah

Interviewer: Why would you do that?

Because it could be dangerous I suppose to try and play on. I mean when I did it and was playing on a little bit, I knew I didn't feel right, but I was just sort of was carried on by just sort of, I don't know adrenaline almost. But then a couple of people were saying to the manager he needs to stop because it can be dangerous so yeah I would do it.

Interviewer: Have you or do you know anyone who has hidden concussion symptoms or anything from a physio to try and play?

I wouldn't know because if they've hidden it then they aren't gonna tell anyone. But no I've never heard of that no.

Interviewer: What do you think your teammates think about concussions?

Everyone is different. But I think most would tell someone definitely. Some you know might want to battle through it and sort of, do it for the team sort of thing. But I think most people would just, would report it yeah.

Interviewer: What do you think the physios think about concussions?

They are probably very wary. They are probably very well educated about it and I suppose know the dangers of it. So they don't want to take any risks with it at all.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your concussion knowledge from?

Don't know really. School partially. The news I suppose maybe if you see of a high profile incident or something. They might sort of do a feature about it or something. Pick up some stuff there. Yeah that's about it.

SAM

Interviewer: Tell me about your typical day to day life as a professional footballer.

Like what I do?

Interviewer: Yeah what you do on a day to day basis?

I wake up. Have breakfast. Travel to training. Knock about it for a bit. Go out to training. Train. Come back in. Sometimes go to the gym, sometimes not. Then go home and watch tv.

Interviewer: Do you get noticed outside of games?

Sometimes out in the public yeah.

Interviewer: Generally positive conversations? Negative?

Last season it would be positive. But sometimes it wouldn't. In Scotland not so positive.

Interviewer: It just kinda depends on?

How the teams doing and how you're playing yourself.

Interviewer: How would you define a footballer's migraine?

Footballer migraine? I don't even know what it is.

Interviewer: How would you define a migraine?

Somebody getting a sore head. Yeah like a sore head and then having to kinda be in a dark room. Kind of. I know someone that used to get migraines and they thought if you went to sleep in a really dark room it would take it away.

Interviewer: If you had a migraine would you play thought it?

Probably not because the way I've seen other people react to having a migraine. I don't think I'd be able to.

Interviewer: How would you define a concussion?

Don't have a clue. No idea.

Interviewer: Could you explain how people get concussions?

I guess the obvious answer would be getting hit in the head but I'm guessing there's other ways you could get a concussion.

Interviewer: If you had a concussion do you think you would play through it?

No I don't think it would be wise to play with a concussion. I think it can affect your health.

Interviewer: Why not?

Why would I not play through a concussion? I don't think it would be sensible to play through a game when you've got a concussion.

Interviewer: Do you think there's risks of playing through a concussion?

Yeah I think there's risks but I don't really know what they are.

Interviewer: Compared to other injuries how serious do you think concussions are?

Serious.

Interviewer: More serious, less serious?

I'd say they are more serious than a strain. Something big, they'd probably be up there with something like that. I'm not sure.

Interviewer: Do you think concussions are a problem in soccer, football?

Yeah there's a lot of people going up for headers and stuff. So there's a chance for them to bash heads and get a concussion so I'm guessing there would be a problem.

Interviewer: But do you think they are recognized as a problem now?

Not so much as other injuries.

Interviewer: If you got a concussion when do you think you should be removed from play?

Straight away. Like as soon as it happens.

Interviewer: How serious do symptoms have to be before they should be removed?

I don't think they should be that serious. I think that if you've got even like mild concussion I don't think you should play.

Interviewer: What would you classify as a mild concussion?

I don't really know how somebody gets concussion to say what, how bad it is if you know what I mean. So, dunno I'm guessing like the physio that runs on the way will tell you like kinda then if you've got a concussion or not and then I think if he thinks you have a concussion then he should just say he shouldn't play.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

Personally I'd say a bit of both. Like some players don't know they've got concussion but then the physios trained for over the years at Uni to learn about injuries and stuff so if they think you've got a concussion then I don't think they should let you play on. So ultimately I think the physio should just take you off if you have a concussion but I think it shouldn't be up for argument.

Interviewer: It shouldn't be up for argument? And it should be the physios decision?

Yeah because he obviously knows like symptoms and stuff that you get from concussion and how serious it is. So I guess he should just make a decision and you you've just gotta stick by his judgment.

Interviewer: How long should a person with a concussion be out for?

Somewhere like over 2 weeks onwards I think. Like they shouldn't return for at least 2 weeks I think. Or that's what I heard.

Interviewer: Who should decide when a player returns to practice or play?

I think there should be a time limit and depending on how he feels his self. If he feels ok and thinks he can return after a certain time limit then I think he should be ok to return.

Interviewer: So it should be the player's decision?

I think the minimum for a concussion you should be out is 2 weeks. Then after 2 weeks if the player feels like he's ok then I think he should be alright to come back in it. So yeah up to the player.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yes. Like if you were going to play a final and stuff and you've only got a strain and you also want to play. But if you're just playing like in a normal league game and stuff and you've got a strain then you probably won't play through it.

Interviewer: What about if it was a concussion?

Then I think you need to be sensible. Obviously everybody wants to play in a final and stuff. But I think if you play with a concussion and you play through it, I think you'll get a bit of damage from it.

Interviewer: So if you had a concussion before the final, are you less likely to report it?

Probably

Interviewer: Because of the limitations in substitutions are you more willing to play through injury knowing that your team might need the substitution later on?

Yeah

Interviewer: Same thing with concussions?

No, if I feel I had a concussion I've gotta come off straight away. Regardless.

Interviewer: What do you think the manager's opinions are on concussions?

I dunno, I think every manager is different. Some will think it's a serious injury and others will think that you should play through it. But my personal opinion is that it's pretty serious.

Interviewer: Do you think your manager here thinks it's a serious injury?

Yeah I think they do.

Interviewer: Does the opinion of the manager influence whether or not you're going to report injuries?

Yeah I think it would. Yeah probably.

Interviewer: Can you talk to me a little about fan support surrounding the team here.

We've got quite a big fan base so we get maybe between 26,000-30 well we sell out at 33,000. SO we've got quite a big fan base and they are usually quite positive towards the team.

Interviewer: Does fan support and opinion play a role in your willingness to report injuries?

No. If I have an injury and I don't think I could play through it then I'd sit regardless of the fans.

Interviewer: Does that opinion change if it's a concussion?

Yeah I'd want to come off as well.

Interviewer: What do you think the fans think about concussions?

I guess it would split again. Some would think it's serious some wouldn't. But as I said I think it's quite serious so if I got a concussion during a game I'd want to come off.

Interviewer: Does your family play a role in your injury reporting?

No. It's down to me. If I feel as if I can play through it I'll play through it. If I don't think I can then I wouldn't.

Interviewer: Who are you most likely to report a concussion to?

The physios.

Interviewer: If you suspected a teammate of having a concussion would you report it?

No. I think it's up to him to report it if he wants to.

Interviewer: Do you know anyone who has hidden a concussion from physios to try and play?

No.

Interviewer: What do you think your teammates views on concussions are?

I think if they knew you had concussion they probably wouldn't want you to play because it's quite a serious injury.

Interviewer: What do you think the physios think about concussions?

Yeah I think they think it's serious and they'd advise you not to play.

Interviewer: Do you know the concussion policy from FIFA?

No

Interviewer: Where did you get your concussion knowledge from?

I don't know to be honest. I just hear bits about it here and there but I've never read anything on it or been told anything about it. So I wouldn't know like symptoms or anything. I just guessed on your question thing.

CALEB

Interviewer: Can you tell me about your day to day life as a footballer?

Come in in the morning, breakfast. Go in and see the physio. Boots on and go and train. Come back and have lunch. Maybe go back out second session if we have one. If not, come back in and maybe do weights. And then, go home and then do whatever for the night.

Interviewer: Do you get noticed outside of games?

As in?

Interviewer: Like out in (City) do you get noticed?

Yeah a little bit. Yeah when you're with a big group of them. Not so much by yourself. Like a big group of us.

Interviewer: What's the general reaction or conversations, how do you things kind of go when people notice you?

Sort of just normal really. You just sort of keep walking or say hello if they want to say hello.

Interviewer: So sometimes they talk to you sometimes?

Yeah

Interviewer: How would you define a footballers migraine?

Maybe, starts with a headache really, and then, sorry I used to get migraines a lot so I used to get a bit of blurred vision like in one eye. See like something, and then, it'd just come on really. Be painful, just headache.

Interviewer: Would you play through a migraine?

Yeah. I'd play through one but, it'd be hard but I'd play through it.

Interviewer: How would you define a concussion?

Someone gets headed in the head really hard. Can be knocked unconscious, don't have to be I don't think. I think your brain can bleed is it? I don't know I'm not sure. They'll lose some memory or they can feel dizzy or after forget stuff or, that's it really.

Interviewer: What's the difference between a migraine and a concussion?

A migraine is strong form of a headache I think. A concussion is when, you've been obviously, I think it's, either bleeding in the brain or you've been knocked unconscious. It's different because you're conscious I think. It's a conscious thing.

Interviewer: So you have to be knocked unconscious to get a concussion?

Not, I don't know but, most of the time I think you do. But on the rare occasion you don't.

Interviewer: Would you play through a concussion?

No.

Interviewer: Do you think there's any risks of playing through concussions?

Yeah because if you get concussed again, it can effect, obviously, what's up there, your brain and stuff I think. Yeah so you need a bit of time off after a concussion otherwise it can be quite bad, quite risky.

Interviewer: Compared to other injuries, how serious are concussions?

Pretty serious yeah. They're up there, quite serious but obviously not time, time is not a massive thing with concussions but still a serious injury because obviously your head is a master of the heart.

Interviewer: What do you mean by time is not?

Like, well I think, like if you have a concussion you should be having 3 weeks off. But like if you do your knee you're out for 6 months and you're having surgery. You know what I mean? It's a big injury but it's not as time intensive as ACL surgery.

Interviewer: Do you think concussions are a problem in soccer or football?

Yeah like, yeah, they can be because obviously heading the ball is quite a big thing of the game, especially um, yeah well it just is. So, it's a big thing in football too.

Interviewer: If you had a concussion when should you be removed from play?

As soon as you get it really. Just to prevent the risk of it. Yeah, straight away, I think straight away.

Interviewer: How serious do symptoms have to be before a player should be removed?

For me it depends if it's in a game. If it's in a game situation then it has to be like, in the middle, so like it's been there for a while symptoms and then take them out. But if it's in training take them out straight away.

Interviewer: So if it's a game you should let them continue on for a while?

For a little bit and see if it, like, if he's still a little bit dizzy or like, all over the place, you know what I mean. But if it's in training, just straight away.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

Physios, the player, the manager.

Interviewer: Who carries the most weight out of those three?

The player. If he thinks he's not right or if he's feeling like he can't perform then he should tell someone or should be.

Interviewer: But if he thinks he's good?

If he thinks he's good then obviously the physios will have to have a look at him and make the decision for him. Because if he thinks oh I'll just play, yeah the physios need to step in.

Interviewer: How long should a person with a concussion be out for?

3 weeks minimum.

Interviewer: Who should decide when a player can return?

Physios really, physios.

Interviewer: Does match importance play a role in how willing you are to report injuries?

Pardon?

Interviewer: Does match importance play a role in whether or not you're going to report an injury?

Yeah I think it does because obviously if it's a big match, isn't that what you mean (yeah). If it's a big match you don't want to be, you wanna be playing don't you. So, I think it does because most players would. Like say we were playing (team) in a local derby, instead of a different team, they'd want to be playing in it so, yeah I think I does.

Interviewer: Does that change for concussions? Are you most likely to report a concussion during a preseason game as opposed to?

Yeah, I think if they had the concussion they would maybe, if they were training, they would get in there, train, and see how it is. But I've had a concussion before and I know what it feels like and so I'd probably report it to be honest.

Interviewer: Have you ever not reported an injury for fear of letting your team down?

No, I don't think I have actually no.

Interviewer: So it's more important that they know and maybe play someone in your place as opposed to playing you hurt?

Yeah.

Interviewer: Because of the substitution rules and that you're only allowed 3 subs, are you more willing to play through injury knowing your team might need the sub later on?

Yeah, like if I was like, slightly injured, and I started the game, like if I was in that situation, yeah I would.

Interviewer: What do you think the manager's opinions are on concussion?

I'd say they are pretty, up there with injuries for him because obviously he doesn't know what, like if you have symptoms on the pitch, obviously it's a big thing. Like if you need to make a tackle or anything, you might seem to be 100% instead of not there so I'd say they are pretty high.

Interviewer: How does the opinion of the manager influence you reporting a concussion?

Obviously highly, if he thinks, if he knows that you might have or and you're not making good decisions or stuff like that, then he'll. Yeah so definitely report it.

Interviewer: So you'd report it because he'd want you to report it?

Yeah if it's a concussion yeah.

Interviewer: Can you tell me a little more about just fan support surrounding the team? Just anything? Generally good fans?

Yeah the fans are good obviously here. I haven't played a lot since I've been injured. But I'd say they are quite welcoming. If you have good games they'll come up to you and say well done and stuff like that. If you have not so good it might be a bit different. But yeah I'd say they'd be alright.

Interviewer: Does fan support and opinion play a role in your likelihood to play through an injury?

No not really I wouldn't say so no.

Interviewer: If you thought you could play you'd play regardless of what the fans thought?

Yeah, yeah.

Interviewer: If you thought you couldn't, you'd come off regardless of what the fans thought?

Yeah.

Interviewer: Is it that the same thing for if you had a concussion you'd come off regardless?

Yeah.

Interviewer: What do you think the fans think about concussions?

I don't know. Don't really know. They'd probably just say get up and play through it.

Interviewer: You think they'd rather have you play?

Yeah. Some of them they are obviously cautious of it but other would just, don't care they'd just be like play on.

Interviewer: Does family play a role in your injury reporting?

No, no, family no.

Interviewer: It's up to you to make your own decisions?

Yeah

Interviewer: If you suspected a teammate of having a concussion would you report it?

Depending on how bad it is. If he's feeling symptoms a lot then I'd report it but otherwise. If he was feeling early symptoms I wouldn't report it for him because it's up to his decision. No I wouldn't report it if was early symptoms. But if it was getting there and he was like falling whatever or if it was impacting his performance then yeah I'd probably report it.

Interviewer: Have you or do you know anyone who's hidden concussions from a physio to try and play?

No

Interviewer: What do you think your teammates think about concussions?

I think if they've had one before they are more, they know a lot more about it and how to deal with it. If they've never had one before then they won't really know and so, probably just like it's there but I've never had one so I don't really know. So they'd be just like uninformed about it really.

Interviewer: So it depends on whether or not they've had one?

Yeah I'd say so like obviously you'd know more about it if you've had one. But yeah they just think I know what concussion is or, maybe I know what it is. But, if you've had one before you'd know more about it pretty much I'd say so.

Interviewer: What do you think the views of concussions are from the physios?

I think it's quite a serious thing because obviously it's a head injury. It'd be one of the highest on their injury list so they'd take it quite seriously. Just take it seriously.

Interviewer: Do you know FIFA's concussion policy?

No I don't.

Interviewer: Where did you get your concussion knowledge from?

Well I've had one before, I've had two before. Obviously just like when I've gone to see a doctor about it like after games because I was knocked out I went straight to the doctor and he told me a bit about it. That's it really, just time off and my little bit of experience really.

Interviewer: Can you tell me a little bit about the two that you've had?

Yeah the first one I went up for a header, headed the ball and the guy's head on the way down. Yeah I was knocked out so, um not no, I wasn't knocked out actually I'm not 100% if it was a concussion that one. The second one I headed the ball out and this guy came in late and just cleaned me out with his head. I fell on the floor knocked out. I woke up on the sideline don't know how I got there sort of thing. Don't remember the score of the game was or anything like that. Felt dizzy and a bit of vision loss, that's it really.

Interviewer: Sorry so the first one you went up, headed the ball and the man, and?

Yeah yeah started feeling a little bit of vision lost in the game, headache, really bad headache, and felt a bit tired. That's it really.

DYLAN

Interviewer: Can you tell me about your day to day life as a professional footballer?

Wake up, breakfast, come here, go home, go to sleep. Pretty boring.

Interviewer: Do you get noticed outside of games?

Not really, I don't really tend to go out to be fair. I'm more of a home boy to be honest. I just stay in play a bit of PlayStation and what not.

Interviewer: When you do go out do people notice you?

Some people probably know who I am. But not to approach me or say anything like that.

Interviewer: So when you go out you're normally just left alone?

Yeah to be fair yeah, pretty much.

Interviewer: How would you define a footballer's migraine?

In what sense? Like a headache?

Interviewer: Yeah, like how would you explain it to someone?

It's like throbbing pain in your head just behind your eyes that can't go away.

Interviewer: If you had one would you play through it?

It would depend on the circumstances. I'd try to. I'd definitely try to but you'd have to see how it felt once you started playing.

Interviewer: How would you explain a concussion?

Being hit in your head and feeling dizzy, a bit nauseous, and confused, feeling tired. I've never had one so I wouldn't know really.

Interviewer: How would you explain the difference between a migraine and a concussion?

Is it, a migraine is more of a headache, a concussion is more of a serious knock to the head.

Interviewer: Would you play through a concussion?

I'd try to. If I couldn't then I'd stop but I'd try to.

Interviewer: Do you think there's any risks of playing through a concussion?
Probably yeah but it'd have to depend on the circumstances to decide whether you decide to play through it or not.

Interviewer: If you were hit on the field do you think you'd be able to know if you got a concussion?

Not at the time. Probably after the physio said but not at the time.

Interviewer: So you'd have to talk to the physio during halftime or on the sidelines before you would?

Yeah

Interviewer: Compared to other injuries how serious are concussions?

I think very serious because we don't really know what you've done until probably had the scan and people have said you've got a concussion.

Interviewer: So you think you need you as can to see if they have a concussion?

No I think you can tell by certain symptoms that you would have concussion but I think it can't be confirmed really until you have the scan and you see the amount of damage or how bad the concussion is.

Interviewer: Do you think concussions are a problem in soccer/football?

Not really, I think they are pretty rare to be honest to get a concussion but it can happen in any sport.

Interviewer: If you got a concussion when should you be removed from play?

Probably straight away as soon as they've decided that you've got a concussion but it depended on whether or not you decide you want try to play on or not really. I don't know I don't think there's a set time really I think it's more whether the manager decides to take you off or not.

Interviewer: So if you got one you should be allowed to try and play through it and if you are unable to then you should think about a substitution?

I think it would all depend on how the player's performing or how the player feels really. If the players had concussion but he's still playing perfectly fine and you can't tell and he

said he's not feeling it then I don't see why there's no reason for him to stay on. But if the player is playing badly and his head is hurting then of course take him off.

Interviewer: So how serious do symptoms have to be before a player should be removed?

I don't think it's how serious the symptoms should be, I think it's, how much the player feels it. It all depends on how the player's feeling.

Interviewer: Who should decide if a player should be removed for a concussion?

I think it should partly be the player. I think it should probably be a bit of everyone a bit of the manager a bit of the physio a bit of the player really. All in all the player's got to say he's feeling it, then again the physios got to say we'll you've got concussion and we got to bring you off and the manager's got to agree to that really hasn't he.

Interviewer: How long should a person with a concussion be out for?

A week. Depending on how bad the symptoms are or how bad it is.

Interviewer: Who should decide when a player can return to participation after a concussion?

The physio staff.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah, always, always. Because you don't want to be out for a big game if you feel you can play through it. Of course not.

Interviewer: Have you ever not reported an injury for fear of letting your team down?

Yeah when you're younger you always wanna try and play through little injuries and little knocks if you feel like you can still get through the game. So yeah I think everyone has really I think.

Interviewer: Because of the substitution rules and that you only get three subs, are you more likely to play through injury knowing your team might need the substitution later on?

Sometimes, depending on how the games going. I think a lot of the time when you're playing you just wanna keep playing and play for as long as possible regardless of the substitutions or whatnot. I think it's more just you just wanna keep playing and keep helping the team.

Interviewer: So your goal is to stay on the field for 90 minutes regardless?

Yeah of course.

Interviewer: What do you think the manager's opinions are on concussions?

I think the manager takes them seriously. But then again it all depends on what's going on in the game I think. I think if the players had concussion and he's playing fine, I think the manager won't see a need to take him off until there's a visible problem if you get me.

Interviewer: So does the opinion of the manager influence whether or not you'd report a concussion?

Not really. I think if the concussion is hurting you that much you'd report it anyway. I think it's more the manager's decision on what happens. Whether you are brought off or if you should stay on.

Interviewer: Can you tell me a little about fan support surrounding the team?

It's quite good to be fair. Like any teams around the league. Things like that.

Interviewer: Does fan support and opinion play a role in your willingness to play through injuries?

I think in a way it does. As you don't want to let your team down you don't want to let the fans down as well. So of course it does it does a little bit yeah.

Interviewer: Does fan support and opinion play a role in your willingness to report a concussion?

Not really. I think, same as any injury really, if you're feeling it bad enough it doesn't matter who influences you or not. If you're hurting then you report anyway because at the end of the day it's your wellbeing. So not really I don't think.

Interviewer: What do you think the fans views are on concussions?

I don't know. I think fans will be pretty similar to the manager in a way I think. It would all depend on game circumstances. I think if a players had concussion and again he's playing alright I don't think the fans wouldn't take notice too much would they. Until the players playing poorly. But the fans wouldn't know that he had concussion or whatnot the fans would just see it as he's probably just playing poorly. So, I don't know I don't think the fans really know much about concussion or would take notice of it if a player had a concussion while they were playing on the pitch.

Interviewer: Does your family play a role in your willingness to report injuries?

No not at all.

Interviewer: Who are you most likely to report a concussion to?

Physio. One of the physios.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Not myself, I'd expect the player to report it himself. I think, the most you do is probably just tell one of the physios just to look out for him because he's not being himself. But away from that I wouldn't report the concussion myself.

Interviewer: Have you or do you know someone who has hidden a concussion from a physio or team doc to try and play?

No.

Interviewer: What do you think your teammates think about concussion?

I think they think they are serious things but they're not that frequent in football for people to think about them constantly to be honest.

Interviewer: What do you think the physios think about concussions?

I think physios take them seriously to be honest. But hopefully too many people don't get them.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your knowledge about concussions?

Nowhere. I dunno.

ISIAH

Interviewer: Tell me about your day to day life as a professional footballer.

It's very simple really. Get up in the morning. Come into training. Work hard. Fuel up. And then sleep up rest up and then same again the next day.

Interviewer: Do you get noticed outside of games in the public?

Depends if you wanna put yourself in the spotlight. Depends on what sort of places you go and if you want to be noticed you can be and if you want to stay under the radar and go about your business quite quietly I think you can do.

Interviewer: So do you get noticed?

I try not to. I try to stay away from the public eye and live out the way a little bit. I'd have thought if I lived in the middle of town and wanted to get noticed you would do. But I try to stay out of the way.

Interviewer: So when people notice you, do they talk to you? What kind of interactions do you have?

Yeah people who recognize you in the streets or wherever you go yeah they wanna ask a thousand questions and they wanna know what's happening so yeah.

Interviewer: Generally good conversations? Negative?

It depends on the performances of the players on the pitch. It normally reverts back to if you are having a good season. Generally the questions are quite good. If the sides not doing as well as they should be doing, you expect different sort of questions.

Interviewer: How would you define a footballer's migraine?

How would I define a footballer's migraine? I'd say I've never come across one. I'd say it'd be from lack of hydration me personally. I seem to, if I do get a headache it's through lack of water or hydration.

Interviewer: If you had that would you play through it?

Yeah. More than likely yeah.

Interviewer: How would you define a concussion?

Well, you'd normally, concuss, you'd expect a blow to the head. I'm not 100% sure if you can be concussed from no blows to the head. But yeah I'd expect a blow to the head

or to that region. And yeah I'd probably play on. I don't think it's the physios decision to take you off. You need the guidance of the physios to speak to you. But I think the decision is left down to you as a person to make that decision.

Interviewer: So if you had concussion symptoms you would play thorough?

I'd more than likely yeah.

Interviewer: How would differentiate between just a migraine and a concussion?

You'd have a pain threshold on level of pain. So, if you were struggling really bad yeah you'd have to come off but it would have to be some sort of pain to get me off the pitch.

Interviewer: Do you think there's risks of playing through a concussion?

I should imagine. I should imagine there's plenty of players who had a whack on the head and carried on from being concussed and then later down the years or even in the near future it's a risk.

Interviewer: Do you think you'd be able to tell if you had a concussion on the pitch?

No. I don't think you'd know the difference between. When if you do get a whack on the head it's very, I think there's a difference between blacking out and concussed I could imagine. So, no I've had plenty of whacks on the head and I've always been fine. I've been knocked out quite a few times, but I wouldn't know the difference between fully concussed and playing on if you understand. I've not really played on with concussion I don't think. I think I've been out, and then I think I've had whacks and carried on I don't think I've played on with concussion. Unless I've been knocked out, I've been knocked out and carried on, so I'm not too sure if that's the same.

Interviewer: So you've been knocked out and continue to play in the same game?

Yeah

Interviewer: So being knocked out and being concussed are different?

Well personally yeah I think so yeah.

Interviewer: Compared to other injuries how serious are concussions?

I think they are serious, obviously because it's to deal with day to day work it's your brain. So yeah I'd say they are serious.

Interviewer: Do you think concussions are a problem in soccer, or football?

Well it's a contact sport and you use your head. And you have to put your head in places where sometimes not many other sports would do. So yeah I'd say it's a big fact concussion. Probably this is the first conversation I've really had on talking about it so it probably needs to be brought to attention a little bit more.

Interviewer: If you sustained a concussion when should you be removed from play?

I think if you're out, out right, especially at this level, what we're playing now, I think that the physio then is liable to make the decision for you. Because you've obviously been knocked out and you're in a position where you can't communicate. And you have to come off the pitch straight away but ultimately it's left down to your decision as a player.

Interviewer: How serious do symptoms have to be before a player needs to come off?

I'd personally say that if the player can't make the decision. It's the same as in boxing. If the player, if he don't look like he's fully there and I think the same in football, if the player doesn't look 100% there, then that's when the physios make the decision.

Interviewer: You kind of already answered this but who should decide if a player should be removed from the game?

Like I said, the physio should make the decision if the players not 100% there but I think if the player can focus and come round I think the player should make the decision. End of the day it's his decision it's his career.

Interviewer: How long should a person with a concussion be out for?

I think it can be quite a small time, it can be quite a long time. From personal experience I'd have thought I've been knocked out and not been too long. I don't think I've been longer than 10 seconds really. That's my previous experiences from it.

Interviewer: So you were knocked out and were back on the field in 10 seconds?

I was knocked out for probably 10 and then come round and then was back out on the pitch.

Interviewer: But if they got removed from a game, like if you were concussed and removed from a game by a physio, how long should you be out before you can start playing again?

I think now a days, I think if you're fully concussed, I don't think you should probably be coming back onto the pitch really. I think the days when I came back onto the pitch it had been because it was either a big game or nobody to replace us. But the level we're at

now I think there's always players to be replaced. And I also think they shouldn't be training as well after that I think that's what I've heard anyways.

Interviewer: So how long should they not be training afterwards?

Probably the physios would tell you that really, the decision would be left by them.

Interviewer: Who should decide when a person with a concussion can return to participation?

The physios or the doctor that make that decision. I still believe it's left down to the player, if he thinks he's capable of coming back onto the pitch or coming back into training the players made that decision. It shouldn't lie with the physios if anything else were to go wrong.

Interviewer: Does match importance play a role in your willingness to report injuries?

Repeat.

Interviewer: Does match importance, like if it's a big game versus just a preseason game?

Yeah I think so. It plays a big part throughout your career. The bigger the game the more risks you're willing to take. That's a big point.

Interviewer: Have you ever not reported an injury for fear of letting your teammates down?

No. No I always report injuries.

Interviewer: Because of the substitution rules and that you only get 3 subs, are you more willing to play on knowing that your team might need the substitution later?

I should have thought so yeah. It makes it tough for the manager if you've got a player who goes down and he's already used his full amount of subs. So yeah you do probably play on through injury.

Interviewer: What do you think the manager's opinions are on concussions?

I'd like to think that they think of it as highly as you do about it. It's a big part of the game it happens, not as much as probably normal injuries does but I think it probably affects you in longer term than other injuries.

Interviewer: How does the opinion of the manager influence you reporting a possible concussion?

I think you're fine to report anything especially at this club. Any injury, concussion, any strains, you're fine you shouldn't depend on how the manager feels or you're fine this club the physio staff are strong.

Interviewer: Can you tell me about fan support surrounding the team?

Fan support? Our fan base is terrific here. We have followers from all over the country. We get a large amount of number of fans follow us home and away. So yeah it's the best fan support I've ever worked with. We get a lot of fan mail as players and every player tries to respond to every mail that gets sent through. So yeah it's very good.

Interviewer: Does fan support and opinion play a role in your likelihood to play through and injury?

I wouldn't have thought so. You don't feel it once if you're coming off through injury that you're letting any of the fans down, or in that sense your manager or your teammates. So no I'd say only yourself, the willingness to play on or stay on the pitch is up to you.

Interviewer: What do you think the fans views are on concussions?

I'm not too sure. I thought like if a player goes down with a head injury they'd see it as a serious problem. So yeah I'd have thought that if a player does go down they'd expect him to carry on.

Interviewer: Does your family play a role in your injury reporting?

No not one bit. I think me upbringing and the way you've been brought up, your pain threshold is probably a little bit from family upbringing.

Interviewer: Who are you most likely to report a concussion to?

The club physio more than likely if you're at a club playing, training or playing your club physio, head physio and they'd probably inform the club doctor.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yeah. If a player was injured or, any sort of injury and was going through a pain barrier or any sort of problem you'd report it to try and help him.

Interviewer: Have you or do you know someone who's hidden a concussion from a physio to try and play?

No

Interviewer: What do you think your teammates views are on concussions?

I'd have though the same in that it's the sort of player, depending on the player, I' have thought some players would take it more lightly than others and others would take it more seriously. So like I say it all reverts back to the player.

Interviewer: What do you think the views are on concussions from the physios?

I can imagine they take it quite seriously the physios. They've got probably more knowledge about it than obviously the players. You're asking me questions has made realize that I don't know as much about it as what I expected.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your knowledge about concussions?

I wouldn't know. I probably just picked it up. I don't know a great deal about it to be fair.

Interviewer: Can you tell me about the one concussion that you did have? Can you tell me just kind of the situation around it?

The concussion I had on the pitch, I went over the top of somebody for a header and as I landed my jaw hit the back of his head and it just knocked me out there and then. And I stood up and started to come around, probably, I was still feeling dizzy and sick probably about 45 minutes later.

Interviewer: So the other times you've been knocked out for 10 seconds, you just get back up and you feel fine and you just continue on?

Yeah I've had quite a few whacks but that was the only time where I thought I'd gone ya know what I mean. I'd like, I struggled to come back around.

TYLER

Interviewer: Can you tell me about your typical day to day life as a professional footballer?

Yeah wake up in the morning, get breakfast, drive into training. Get ready for training. And then we'll go out, warm up, maybe play a possession game, ease in game, 5 a side game, come in. We shower, have dinner, go home, play with the kids. Probably have tea about 6:00. Put the kids to bed around 7-8:00. Relax, then watch a bit of telly and put music on, then in bed about 10, half 10 in the evening.

Interviewer: Do you get noticed outside of games?

Yes. You go shopping or something like that, fans will come say hello or ask for autographs.

Interviewer: So is it generally positive interactions you have with fans?

Yeah

Interviewer: How would you define a footballer's migraine?

I don't think there's a different on is there? I think everyone has the same migraine. I have, I've suffered from migraines meself. They are nasty things. I've been sick with them, had dizziness with them, loss of balance with them, but I don't know why it comes on. I've got these tablets to take and what it called, I've got tablets off a doctor so to take that help me help me over.

Interviewer: So if someone had never had one before how would you explain how it feels?

My last one, woke up in the morning, oh I think I woke up in the night, I tried to get out of bed to go to the toilet, nearly fell over loss of balance, sick, and just a absolute tremendous pain in my forehead. So I just try to sleep as much as you can.

Interviewer: If you had a migraine would you play through it?

No

Interviewer: How would you define a concussion?

A concussion, a concussion is just a whack to the head maybe. Well I would say it would be a blow to the head. Maybe someone's got dizziness, maybe a bit of nausea, headache, probably about it I'd say.

Interviewer: What's the difference between a migraine and a concussion?

I wouldn't really know to be honest. A migraine I think is just a bad bad bad really really bad headache. Concussion I think you'd probably need a blow to the head for a concussion.

Interviewer: Would you play through a concussion?

It depends. I have done. Had a bang on the head, I had a bit of double vision, but I carried on through the game and we won. Probably, you shouldn't though, but I have done.

Interviewer: Do you think there's any risks of continuing on through a concussion?

Possibly there is yeah. You know it depends, depends how severe. You don't know how severe your concussion is if you've had a bang to the head. But you know I think there are risks if you continue.

Interviewer: Do you think you would know if you got a concussion on the field?

Possibly not no. Some people have a bang to the head and don't even know who they are do they. Ya know they wake up and they don't know what they're doing where they're doing and what's happened to them. They don't remember anything so it's a possibility.

Interviewer: But if you took a knock to the head and you were feeling funny would you just continue on or?

Yeah I'd probably continue on in the game unless you've got, you know it was stopping my performance. Or there was a problem for me then I would make sure I'd say something to the physio.

Interviewer: Compared to other injuries how serious do you think concussions are?

Very serious. I'd think so yeah. Very serious. Just as bad as anything because concussion can keep you out for a few weeks, so can a hamstring keep you out for a few weeks.

Interviewer: Do you think concussions are a problem in soccer/football?

I don't think it's a problem no. I think it happens, like people get injured, it happens but as long as they are looked after properly I mean it's alright.

Interviewer: If you got a concussion when should you be removed from play?

Probably the physio should, immediately I should say take you off.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

The physio.

Interviewer: How long should a person with a concussion be out for?

I think its 2 weeks. 14 days I think.

Interviewer: Who should decide when a player can return after a concussion?

Probably the decision is with the physio but I'd say probably the player and the physio need to talk and see how the person's had concussion see how they are. See if they've recovered and you know, how they are themselves. Probably a joint discussion I would say.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah it does yeah. You know everyone wants to play games and if you can get through it you know, you'll probably hide it and try get through games. I think that's very very common.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

Yeah, people have niggles, or hamstring, or knock on the ankle or, you know and they say you know, as soon as the game kicks off you'll be ok. The adrenaline will get flowing and you'll get through the game.

Interviewer: Because of the substitution rules and that you only get 3 substitutions, are you more likely to play on knowing your team might need the substitution later on?

It depends on what injury. Obviously if it's a concussion or something like that but it's something that's serious I think yeah they are more likely to come off. But it depends what kind of injury you've got. If you've just got a kick or something like that then obviously you can carry on, unless it's really affecting your performance then you need to come off. But if you can get through I think you're alright, but if you're letting yourself down and your team down then you need to come off.

Interviewer: What do you think the manager's opinions are on concussions?

I think it's, a very serious one. Like I said, it's a dangerous one because you don't really know what you're doing, so it's the physios, the physio needs to come off and look at you, doctor needs to look at you and then make the decision. Because we really don't

know, nobody knows what you've done you know you've had a big blow to the head or something and you're not feeling right, and yeah I think it's quite serious.

Interviewer: Does the opinion of the manager influence you reporting a possible concussion?

Yeah

Interviewer: How does it?

Well it depends, managers can be, persuade people to play. So, I think if they want you to play, then managers have ways of making you play and so I think they do make the decision.

Interviewer: Can you tell me about fan support surrounding the team?

The fans? In what way the fans?

Interviewer: Anyway.

Our fans are good. We have, we get about 25,000 fans watching us every week. People getting behind the team and support the team. It's every fan's team doing so.

Interviewer: So generally your fans are positive or negative or?

At time they can be quite negative. You know if things aren't going our way or we concede an early goal or something like that, then they can be negative. But, I think it depends how the team is playing. If the team is playing well, they'll get behind the team. If the team is playing bad, they are negative. So they are very, you know, you wouldn't know how they are going to be.

Interviewer: Does fan support and opinion play a role in your likeliness to play through injury?

No. No. If you're injured, then, you know you're injured sort of thing and I don't think they can persuade you.

Interviewer: Does fan support and opinion play a role in your likelihood to report a concussion?

No. The fans play no role at all in that side of it.

Interviewer: What do you think the fans views are on concussions?

I wouldn't know to be honest. I'd probably say, oh he's had a bang to the head he can carry on, if you know what I mean. They are probably not very wise to it.

Interviewer: Does your family play a role in your injury reporting?

No. My wife doesn't, just lets me get on with things and obviously the kids are still too young.

Interviewer: Who are you most likely to report a concussion to?

The physio, or the doctor.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yeah. I'd tell the physio yeah or I'd go and tell him to tell the physio.

Interviewer: Have you or do you know someone who has hidden a concussion from a physio in order to play?

I don't know. I don't know.

Interviewer: What do you think your teammates views are on concussions?

I think very important. I think if somebody did have one I think people would help. You know people have been the same way that, to tell them to go see the physio or to tell the physio you know that it's there or that they have got a problem.

Interviewer: What do you think the views are on concussions from the physios?

I think they take it seriously yeah probably look at you themselves and probably, get the doctors to come and look at you. Probably more qualified than the physios to have a look at you.

Interviewer: Do you know FIFA's concussion policy?

I don't know.

Interviewer: Where did you get your concussion knowledge from?

Experience. Playing, I've had a concussion in the past. And just probably just through experience really.

Interviewer: Can you tell me about what happened when you got your concussion?

Yeah. I went up for a header and got a elbow to my head. I had double vision, carried on in the game. Got home, had bad headache, I was sick. Come in the next day and the physio said you know it's probably you've had concussion and then, I think it was about 2 weeks until they'd let me play again.

OWEN

Interviewer: Can you tell me about your typical day to day life as a professional footballer?

Yeah, basically, at the minute I come in every day get treatment on my right shoulder. Normally 15-20 minutes massage and then gym, stretch, basic shoulder strengthening and then go join up with training.

Interviewer: And then after training?

Normally just come in get checked make sure everything is ok. Normally back in the gym doing more, rehab and that's it.

Interviewer: Do you get noticed outside of games?

Noticed? Yes you would do if you're right in local area definitely. But I live in (City) which is a different place, keeps it away.

Interviewer: What are the general reactions people have when people do notice you?

Quite friendly. Just basically like to find out a bit about the club and interested in how the team's doing.

Interviewer: How would you define a footballer's migraine?

Busy kind of relaxing muscles, playing in goal, the usual trying to hang around in the dark as best as possible, but you need rest as well so.

Interviewer: How would you explain it to someone who's never had one? Or what it feels like or?

A proper migraine? I don't know never had one. Probably wouldn't say it was very nice.

Interviewer: If you had one would you play through it?

I would because I'm Irish and I got some, well that's the only reason.

Interviewer: How would you define a concussion?

Normally by be being knocked out.

Interviewer: You said being knocked out?

Yeah

Interviewer: So what's the difference between a migraine and a concussion?

Well a migraine is something that you would get as a headache. A concussion is probably something you wouldn't physically get every day, or very often, you probably would never get one. It just depends on what kind of injury you got.

Interviewer: How would you get a concussion?

Like a bang in the head.

Interviewer: Would you play through a concussion?

I wouldn't say it would be the most sensible thing to do.

Interviewer: But if you got one would you?

I'd try. Yeah I would yeah. It wouldn't scare me.

Interviewer: Do you think there's any risks of playing through a concussion?

I'd say there would be but I'd like to think the physio would know what they do, if you know what I mean.

Interviewer: Do you think you would know if you got a concussion on the field?

Yeah I think I would understand that something's happened. I think it'd be a different feeling from what you normally.

Interviewer: Compared to other injuries how serious are concussions?

Well I'd say anything to do with your head or brain is very dangerous so I wouldn't make the risk something if I had known what it meant.

Interviewer: Do you think concussions are a problem in football?

Well I wouldn't say so as a goalkeeper but I think it's only something that wouldn't often happen. It wouldn't happen to myself every day but it happens frequently player so I'd say it's something you need to keep an eye on.

Interviewer: What do you mean by frequently?

Well, it's not often it happens to yourself but it might happen a lot to other people. So it's something that when your told it happens and you don't know much about it.

Interviewer: If you sustain a concussion when should you be removed from a game or practice?

I wouldn't remove myself, I would expect the physio to let me know if it's ok.

Interviewer: How soon after injury though should you?

I'm not sure. I wouldn't know.

Interviewer: How serious do symptoms have to be before you should be removed from a game?

I think you should know yourself if you, if it's different from what you're used to and if you're fit to carry on. Your body should tell you.

Interviewer: If it bothers you then?

It should be enough to know yourself.

Interviewer: Who should decide if a player is removed from a game for a concussion?

I think basically the physio will always know best so you should listen to him. Players always seem to think, they are scared to come off the field. So I think the physio is normally the most intelligent one.

Interviewer: how long should a person with a concussion be out for?

Well again it's down to what they understand of what they've gotten. Like seriousness of the injury. So I wouldn't know until I was told by a physio obviously.

Interviewer: So if you had to guess?

I wouldn't know.

Interviewer: Who should decide when a player can return back after a concussion?

Physio and club doctor.

Interviewer: Does match importance play a role in your willingness to report injuries?

Does what?

Interviewer: Match importance.

Yeah it would because you always you always want to play. You never want to let on that you're injured if you think you can get away with. Because every player doesn't want to miss a game. There's always someone wanting to take your place.

Interviewer: Does that change if it's a preseason game or?

No because you want to be on the manager's plan as much as possible.

Interviewer: Have you ever not reported an injury for fear of letting your team down?

No, I've never had any injuries until recently.

Interviewer: Because of the substitutions and that you only get 3 subs, are you more likely to play through injury knowing your team might need to sub later?

I'd say a lot of people do play through injury but I think most of the time it's only slight niggles it's not serious.

Interviewer: What do you think the manager's opinions are on concussions?

Our manager, (laughing) I don't know. I think he will always ask the physio, take his word before yours because most of the time safety is the most important thing. I think your health should always come first.

Interviewer: How does the opinion of the manager influence you reporting a possible concussion?

Just by, just like understanding that you're not right. If you're not right yourself then there's no reason you should take the risk.

Interviewer: Can you tell me about your fan support surrounding the team?

The fans? Good yeah. Got a great following, like 30,000 most weeks they come and every week support us and it's great.

Interviewer: Positive or negative?

Very positive. But it's like anything, if you're doing well it's more likely.

Interviewer: Does fan support and opinion play a role in your willingness to report or play through injuries?

No because the only thing that should ever matter is your own dealing with yourself because at the end of the day that's the most important thing.

Interviewer: Does fan support and opinion play a role in your willingness to report a concussion?

No, because they don't know you like you know your own body.

Interviewer: So what do you think the fans think about concussions?

I think most fans wouldn't know what it is just like most players probably wouldn't know what it is until it happens to them.

Interviewer: Does your family play a role in your injury reporting?

No. I think growing up knowing that, being taught that you should know and understand what is best for you. So, normally I, a normal part of being a footballer is knowing when you can and can't report injuries.

Interviewer: So your family understands when you can and can't or you know?

No I would know they wouldn't.

Interviewer: So when can you and when can't you?

Normally if it's serious, if it would stop me from playing. If it wasn't serious I wouldn't try and stop myself.

Interviewer: Who are you most likely to report a concussion to?

The physio, straight away.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yeah I would. I would rather the medical staff just make sure they're alright and understand what's going on.

Interviewer: Have you or do you know someone who's hidden a concussion from a physio or team doc in order to play?

Yeah (player), he had a concussion, um a clash of heads and had some skull damage so. But that was something that was seen on the pitch so, it was something that we all learned from?

Interviewer: But did he try to continue on?

No, he got took off.

Interviewer: What do you think your teammates views on concussions are?

I think they are all aware that it's something that needs to be tread carefully with because obviously the brain and head is very important and not to be messed around with.

Interviewer: What do you think the physios think about concussions?

I think they are probably more aware of the dangers than we are so it's always good that you've got them there to protect you.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your concussion knowledge from?

Just in training, in the physio room, in and around the club, people chatting, people getting injured, just listening and seeing what happens.

JASON

Interviewer: Can you tell me about your day to day life as a professional footballer?

Regarding what?

Interviewer: Just what a normal day looks like for you.

Come in, stretch for 20 minutes, a bit of glute work with the cling bands, then have a little rest 10-15 minutes before we go out. Go out, train, you know, whatever they've got planned for us and then have dinner afterwards. And then stretch again for the same, half an hour. And then that'll be the day.

Interviewer: Do you get noticed outside of games?

What do you mean by that?

Interviewer: Like out in the public.

Oh no no, not personally no not me.

Interviewer: How would you define a footballer's migraine?

A footballer's migraine, it's kind of like a really powerful headache. You know the difference between that and a headache kind of thing.

Interviewer: How would you explain the difference?

It's kind of like, a headache can be durable but a migraine can't be. That would be for me.

Interviewer: Would you play through a migraine?

As a center back, probably not with heading the ball, probably not as much.

Interviewer: How would you define a concussion?

Almost being knocked out kind of thing, but you're not. You're still conscious but you're not knocked out, if that makes sense.

Interviewer: Would you play through a concussion?

Yeah, I have done before.

Interviewer: What's the difference between a concussion and a migraine?

Don't really know.

Interviewer: Do you think there's any risks of playing through a concussion?

Definitely I'm sure there is somewhere. You know because if you damage you're head even more it's gonna obviously make it worse like anything.

Interviewer: Do you think you would know if you got a concussion on the field?

Yeah you would know very much.

Interviewer: Before talking to a physio, would you be able to tell yourself?

You would feel something was there but you would need a second opinion. Like, whether it's having just a bang on the head or it is definitely a concussion you'd see a second opinion.

Interviewer: Compared to other injuries how serious are concussions?

What injuries now?

Interviewer: It's up to you.

Oh, well if it's obviously like a broken leg then no it's not a serious by a long way. But it depends on the repercussions of the concussion. It's gonna be a continuous thing then it will be serious but if it's not then it won't be serious.

Interviewer: So if it's a one time thing then?

You're fine, you won't, but if it's gonna keep recurring, then obviously you've got something wrong.

Interviewer: Recurring, you mean symptoms recurring or getting concussions again?

Yeah both symptoms and getting it again, both of them.

Interviewer: So if you keep getting them again and your symptoms are lasting a long time then it's a problem but if it's just?

Say you get a serious knock to the head, you know, and a week or that and it's gone, you don't get it again, then it's nothing a problem.

Interviewer: Do you think concussions are a problem in football?

Definitely, but you can't really help it though it's a contact sport if you're gonna get it you're gonna get it aren't you.

Interviewer: If you sustained a concussion when should you be removed from the game?

Straight away.

Interviewer: How serious do symptoms need to be before you should be removed?

I don't know it could be a matter of opinion that really.

Interviewer: So how about for you?

For me, if my vision is going then I can't, because you can't obviously, your wits about you can't see where you're going.

Interviewer: What other things would have you stay on, if it was just?

Depending on the importance of the game the importance of me in that game. Obviously there's a lot of factors but they would be the two main ones. If they were quite high then I would try and obviously play through it but if you can't then you're just a hindrance rather than a help aren't you.

Interviewer: So if it's a big game and you can't see those are the two?

If you can get through it and your vision is fine or whatever, fine man up and do it. But if you can't and basically by playing you're a bit of a nuisance to your team, then get yourself off.

Interviewer: Who should decide if a player's removed from a game for a concussion?

Who? Physio. Not the manager. Physio.

Interviewer: How long should a person with a concussion be out for?

It's a week to ten days something like that before you can train again. Something like that. I think that anyways. That's what I was when I had it.

Interviewer: You were out seven to ten days?

Yeah

Interviewer: Who should decide when a player can return to play after a concussion?

Physio

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah, definitely. If you can play through an injury and it's a big game, do it. If you feel you're important in that game. But if it's a minor game but you got a minor injury there's no point risking it and making the injury worse for a not important game.

Interviewer: Have you ever not reported an injury for fear of letting your team down?

No. Since I've been at (Club Name) I have.

Interviewer: What about before then?

I played under league so, there wasn't that kind of attention to detail with injuries you'd just kind of just get on with it and not think of it. Whereas now anything little you have to report it.

Interviewer: Because of the substitution rules and that you only get 3 subs in a game, are you more likely to play through an injury knowing that your team might need the sub for something later on?

Yeah, most likely yeah. Say you're losing 2 nil and you have to bring an extra striker on then yeah definitely.

Interviewer: What do you think the manager's opinions are on concussions?

I think they take it seriously, you have to. But I think, yeah they take it seriously, they aren't going to risk the safety of their own players for an extra 15 minutes on the pitch because the seasons are long it's not worth risking it is it.

Interviewer: Does the opinion of the manager influence you reporting a possible concussion?

No. Not with concussion, with injuries maybe but not with concussion.

Interviewer: How does it influence you with injuries in general?

Say if, the manager hears you've got like a bit of a tight hamstring or a tight calf they will just say stretch off and get on with it you'll be fine. Whereas concussion it's a lot more serious regarding that because it's obviously head.

Interviewer: Can you tell me about fan support surrounding the team?

At (Club Name)? Fantastic, brilliant. Yeah we have the best part of 30,000 there each week, and it's one of the best sporting clubs in the country both on games and away from games, fans are brilliant.

Interviewer: So positive generally?

Yeah positive yeah. Yeah the positives outweighs the negative by a lot. Obviously you're gonna get negativity, everyone gets a little but I mean the positive weighs out the negative by miles.

Interviewer: Does fan support and opinion play a role in your willingness to report injuries? Or likelihood to play through an injury?

Yeah if the fans are kinda getting on at you, you ain't gonna want to cow away and go off injured, you should kinda just get on with it and try and put things right.

Interviewer: What about, does fan support and opinion play a role in your likelihood to play through a concussion?

Probably not, because they would see themselves that you're struggling. And they would have seen the incident in the first place. So they would know, you know, you're not gonna risk, like they know themselves that seasons are long and it's not just that game. But also it depends on the importance of the game as well.

Interviewer: What do you think the fans views are on concussions?

Pretty much the same as most people I think if you can play through it and then try to but it depends on the seriousness of the game and it depends how serious the concussion is. They would appreciate you trying to play through it as well as to the point that you can't do it anymore.

Interviewer: Does your family play a role in your injury reporting?

Yeah definitely, if anything injured my dad tells me to report to the physio straight away and he's stressed that because like I say missing one game is fine but missing ten games isn't. So it's easy just to miss one and get the injury sorted out rather than missing 4 or 5.

Interviewer: Who are you most likely to report a concussion to?

Physios. Because you have physios at every game and they would know.

Interviewer: if you suspected a teammate of having a concussion would you report it?

Definitely yeah. If, they looked like to me that it were a concussion I would report it straight away.

Interviewer: How would they look to you?

We they would look kind of drowsy and a bit slow in the face, if they were that naturally, then I would report it kind of just as though that they are a bit, not so much sleepy, but they're not with it kind of thing, then I would report that.

Interviewer: Have you or do you know someone who has hidden a concussion from a physio or team doc to try and play?

No.

Interviewer: What do you think your teammates views on concussions are?

Pretty much the same as the fans really, if it's serious there's no point in going on. But if it's like a mild one and you can play through it then great but if you can't then, it's not a serious, you can always bring someone else on.

Interviewer: What do you think the views are on concussions from the physios?

What do you mean like that?

Interviewer: How do you think they view concussions?

Oh very seriously. Yeah definitely.

Interviewer: Do you know FIFA's Concussion policy?

Nope

Interviewer: Where did you get your concussion knowledge from?

Just general. I've never had that kind of specific boom boom boom, it's just kind of a general knowledge that you have hearing things now and again.

Interviewer: Can you tell me a little about the concussion that you got?

It was playing, I was going up for a header and clashed head, I got caught in the back and went really dizzy and then my eyes were gone and I couldn't see they were really blurry and fuzzy. And then next thing I know I had a headache and that was it. I woke up at the hospital.

Interviewer: So you passed out?

Yeah.

Interviewer: So you continued to play on?

Yeah, because I went up and got the clash in the head, went down for like 5, 5-6 seconds and it hurt like mad, went on the floor and just, felt like I went to sleep.

Interviewer: And then you woke up in the hospital?

Yeah

Interviewer: and you were out for how long? 7-10 days?

Yeah something like that.

LUIS

Interviewer: Can you tell me about your day to day life as a professional footballer?

Get up, go train in the mornings and then pretty much hang out in the apartment for the rest of the day. From I'd say like 2:00 on just chill.

Interviewer: Do you get noticed when you go out into the public?

Sometimes, not often though.

Interviewer: Depends on? Does it depend?

No, well it depends on I'd say how many younger kids are in town.

Interviewer: When you get noticed, what are the kind of general reactions you have?

They just say hey, maybe a thumbs up or something that's it.

Interviewer: How would you define a footballer's migraine?

A what?

Interviewer: A footballer's migraine?

I don't know really. I don't know.

Interviewer: How about just a migraine?

It kills, it hurts, I hate them.

Interviewer: You've had one before?

Yeah

Interviewer: If someone had never had one before how would you explain it?

It's almost unbearable, you just need to sit down and take some Advil or something and just try and wait it out.

Interviewer: If you had one would you play through it?

Me personally, probably. That's just the way I am.

Interviewer: How do you explain a concussion?

Don't really know what happened, and then you get headaches afterwards and just kinda don't really know where you are a for a little bit.

Interviewer: If you had one would you play through it?

Yeah. Probably, I tried to one time but I got held out, was made to stop.

Interviewer: Stopped by who?

There was a trainer at the game. She wouldn't let me go back in.

Interviewer: She wouldn't let you go back in the game?

No.

Interviewer: Do you think there's any risks of playing through concussions?

I think so yeah probably because I'm sure if you get hit again or something it wouldn't, obviously wouldn't be the best for you. Probably be long term after that so who knows.

Interviewer: Do you think you would know on the field if you got a concussion?

If it was like a light one, probably not, you'd just probably feel like you just got a knock to the head, had a headache or something but probably wouldn't know that it was that serious.

Interviewer: How do you differentiate a light from a more severe concussion?

I mean, more severe would probably be getting knocked out and stuff and you'd probably know you probably shouldn't keep going. But if you just get hit in the head or something and you just feel like you have a headache you probably just play on.

Interviewer: How do you differentiate a concussion versus being knocked silly or seeing stars?

When you're seeing stars, you're kinda dazed, confused, don't know where you are, don't know really what happened, and I've had a couple where just got hit but still kinda remember what happened and where I was and stuff like that so, I guess those two differences. You're not as dazed as confused as a lighter one.

Interviewer: So you're more dazed and confused with a concussion?

Yeah.

Interviewer: Compared to other injuries, how serious are concussions?

I think they should be taken pretty serious, I mean obviously they're not like a broken leg where you can't run and stuff but it's your brain and it's pretty important to everyday life so it needs to be taken care of and treated like it's as serious as other ones.

Interviewer: Do you think concussions are a problem in football?

Not really, I mean you don't really hear much about it, especially with all the stuff going on in America about the other football. It's not really that serious over here I don't think no.

Interviewer: So not compared to the NFL is that what you're thinking?

Yeah. No I don't think it's that big of a deal, not that I've noticed at least.

Interviewer: The media is not making a big deal of out of them?

Yeah. No they're not.

Interviewer: Do you think the media should be making a big deal out of them?

If they got serious enough to where, yeah it's a serious matter it's just, I don't know how often it happens and guess they don't really publicize it as much over here, soccer wise as they do in the NFL.

Interviewer: If you sustain a concussion when should you be removed from play?

Probably immediately. But, probably wouldn't want to be depending on how competitive you are. But probably right after it happens, probably not go back out there.

Interviewer: How serious do symptoms have to be before you should be removed?

I think the lightest of symptoms, any type of symptoms, don't risk it it's too important.

Interviewer: But you've played through?

I've wanted to but I haven't been allowed to.

Interviewer: But you wanted to?

Yeah

Interviewer: Who should decide if a player should be removed from a game for a concussion?

Probably the physio or the trainer, because the player is so into the game and so competitive that they'd want to go back in. We're not thinking about later on consequences where other people are thinking, it'd be best if you don't, what's best for you in the long run.

Interviewer: You're more focused on the game and result?

Yeah I'd say so yeah.

Interviewer: How long should a person with a concussion be out for?

Don't know, usually, I mean I was out for probably 2 weeks or so just to let everything, and everything was fine after that but I think it depends on the person and how they feel to a certain extent.

Interviewer: Who should decide when a player can return after a concussion?

That's tough, because only the player really knows how he feels and the player can kind of lie about how he feels and stuff like that. But I'd say the physio or the trainer would have to be, probably, have the final say.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah I'd say so. I'm not gonna say it's as serious obviously if it's a big game. I'm not gonna want to sit out a big game. So yeah I'd say it's a pretty big deal.

Interviewer: So you're more likely to try and play something for a big game as opposed to like a preseason?

Yeah I'd say so definitely.

Interviewer: How do you define a big game?

I mean, I guess every game is a big game in the season over here. But I mean if you want to get into the big big games talk about like finals of tournaments and stuff like that. But I mean every game's a big game really.

Interviewer: Have you ever not reported an injury for fear of letting your team down?

Yeah, not recently, but when I was younger yeah. We wouldn't tell the coaches or anything if something happened.

Interviewer: In high school?

Yeah stuff like that. Club soccer and stuff like that.

Interviewer: Because of the substitution rules and that you only get 3 subs are you more likely to play through injury knowing that your team might need the sub?

No I don't think that really goes through people's minds that often. It's more of, wanting to play because you want to play and not wanting to play because you're going to use a sub. So no I don't think it's that big of a deal.

Interviewer: What do you think your manager's opinions are on concussions?

I think he, obviously he takes them pretty serious. Can't really take them lightly. I remember a few times some guys were like, kinda seeing stars or something and straight away he was like get them off don't want to risk. I think he knows the risk of it.

Interviewer: He's had guys pulled for seeing stars?

Yeah once or twice he's just said, yeah alright just get them off.

Interviewer: During games or practice or both?

Games. I think there was one game I remember specifically.

Interviewer: How does the opinion of the manager influence you reporting a possible concussion?

I think, well I don't know about concussions, but I think you'd probably want to report a concussion no matter what. Even if he would get mad at you say, I don't know if he would, but if he got mad at you for saying you're injured or something. I think concussions need to be reported no matter what.

Interviewer: You said with concussions it doesn't change but what about injuries in general?

I'd say with injuries in general it'd be more of a kind of, you might keep it to yourself depending on the maybe severity of it or stuff like that. If it's just like a little nick you probably wouldn't say much just in fear of him being angry or thinking you don't want to play or something.

Interviewer: Can you tell me about fan support here around the team?

It's good. I mean we get pretty much a packed house every game and they are supportive and stuff so yeah it's a good fan base.

Interviewer: So positive? Generally Positive?

Yeah for the most part.

Interviewer: Kinda depends on?

How the results are going and stuff like that.

Interviewer: Does fan support and opinion play a role in your likelihood to play through injuries?

I don't think so I think that's the last thing on player's minds because it's more playing for your friends and stuff on the team, the manager, and then kinda your, it's your life you're getting paid to do what you do and I'd say fans come after all that.

Interviewer: So fans are kind of the last think you worry about?

Yeah I'd say so.

Interviewer: Does fan support and opinion play a role in your likelihood to report a concussion?

No.

Interviewer: What do you think the fans views are on concussions?

I mean, I'm pretty sure they'd understand if they knew you had a concussion and had to take a rest for a few weeks. So yeah they'd probably just understand and know that it's serious.

Interviewer: Does your family play a role in your injury reporting?

No, I mean I'll tell them if I'm injured but no the finally decision comes from me.

Interviewer: Who are you most likely to report a concussion to?

The physios or the trainer.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yeah probably, especially during a game. If you're struggling you'd probably tell them to get off first and foremost and if he was saying no then I'd probably tell the manager or something.

Interviewer: But if he's not struggling he's just?

I mean if he's alright from it because you check on him a few times to make sure he's ok but if he seems alright then no.

Interviewer: Have you or do you know someone who's hidden a concussion from a physio or team doc in order to play?

I don't no.

Interviewer: What do you think your teammates think about concussions?

Just think like everyone else it's a pretty serious matter and that you try to avoid them at all possible.

Interviewer: What do you think the physios think about concussions?

The same I'd say just that it's serious and if it does happen they'd obviously want to know and get it sorted straight away.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your knowledge from about concussions?

Probably just from having them and having and having people, doctors and trainers and stuff tell me about them and stuff like that.

Interviewer: Can you tell me about the 3 that you've had? Just kind of what happened?

One was, I jumped for a header and got punched in the back of the head by a goalkeeper. Next thing I remember I was on the ground. Another one was, I went up for a header, clashed heads with a guy, and that's all I remember. I don't even remember that really, busted my lip open and stuff. I remember then I was walking off and they said stich him up and put him back on, just messing, and I was like yeah ok I'll do it. But I mean I think every player would do that, but I can barely remember the drive to the hospital. And then, the third on was so long ago I don't really remember that one. It's been one pretty bad on the other was, bad, but not as bad. But when I clashed heads that was probably the worst one I've ever had because I don't, even today trying to think back I don't remember getting hit or anything. Just one of those things.

IAN

Interviewer: Can you tell me about your day to day life as a professional footballer?

Day to day life? I get up from sleep, and then have breakfast, and then drive to training, and then train. Then have lunch, do some weights maybe, and then go home. That's it really.

Interviewer: Do you get noticed outside of games?

Do I get noticed outside of games? Well, sometimes. What do you mean, like a just in my off time? Like just at home or just shopping with the Mrs. and that? Yeah sometimes you can yeah.

Interviewer: How do those interactions go?

Quite positive really, don't really bother me.

Interviewer: How do you define a footballer's migraine?

How do you define a footballer's migraine? A migraine is a headache so, I don't know I don't really, a footballer's migraine. A football headache. Are we talking, football related or physically related?

Interviewer: Either.

Well football headache can sometimes be like, if there's 11 guys on the field and there's 2 players who play right wing and they're both doing really well in training and they're both been doing well in games and that's giving the manager a headache or that's a football headache. Or physically you could have a headache, and during a game you could have a headache.

Interviewer: Would you play through a headache during a game or a migraine?

I'd probably ask (Name) for a couple of paracetamol but yeah.

Interviewer: How would you define a concussion?

Having done all your questionnaire stuff I would probably say that it's something to do with dizziness, a little bit of obviously a headache as well, a blow to the head maybe I'd probably define it.

Interviewer: Would you play through a concussion?

Would I play through a concussion? Depending on how serious it was?

Interviewer: What do you mean? Can you explain?

Well you can have memory loss or you don't know where you are or it takes you time to come round. Having being concussed before it took me a long time to come round.

Interviewer: Like wake up?

I couldn't remember a thing. Yeah I literally been asleep and then woke up, well I felt like I've been asleep I probably hadn't.

Interviewer: Like been knocked out?

Yeah and I can't remember how it happened. Someone told me how it happened but I can't remember that actual blow.

Interviewer: Would you play through a concussion?

Having had that one probably not.

Interviewer: But if it was more mild would you?

I'd probably ask a physio, see what they say. Probably agree to disagree or ask for their opinion at least.

Interviewer: Do you think you would know if you sustained a concussion on the pitch?

It depends how serious it is isn't it? Like the first concussion I had, I couldn't remember a damn thing so, it was only afterwards when I come round. But I'm guessing there's mild concussions, and I'm not really sure how to answer that question.

Interviewer: Do you think there's any risks of playing through?

Yes. Could be further damage.

Interviewer: Compared to other injuries, how serious do you think concussions are?

Well all injuries are quite serious aren't they? They are all different and all, you can't really say that having a broken leg is different than a concussion or vice versa, they are all quite serious I suppose. The only thing that I thought the concussion was something to do with the head but I'm not quite sure. If you're brains in your head and that probably tells you most things to do with your body so, I'm guessing it's quite serious.

Interviewer: Do you think concussions are a problem in football?

Yeah, I think they are quite important in anything. I mean probably more important in boxing because you're getting blow to the head all the time and they get more of a chance of getting knocked out. But I'd say they are quite serious yeah.

Interviewer: If you sustain a concussion, when should you be removed from play?

I have no idea. It all depends on how bad the concussion is or what the physio's opinion is or manager's opinion or my opinion, I don't know. How generally the athlete is.

Interviewer: How serious do symptoms have to be before a player should be removed from practice or a game?

Loss of memory, any weariness, any dizziness, and I think you should be removed from play.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

Everyone really should decide it should be a little bit of everyone's responsibility. It should be the manager's responsibility, the player's responsibility, and the physio's responsibility I think. Everyone's a little bit.

Interviewer: How long should a person with a concussion be out for?

I don't know it depends how serious it is.

Interviewer: Who should decide when a player can return to participation after a concussion?

A doctor or the physio.

Interviewer: Does match importance play a role in your willingness to report injuries?

Match importance sorry?

Interviewer: Does how important the game is in the season decide whether or not?

No not really because every game is important. Depending on what state I think any game is important, well personally any game is important. So no I don't think it matters really. The person's wellbeing is more important.

Interviewer: Have you ever not reported an injury for fear of letting your teammates down?

I don't think, I'm never 100% fit there's always something wrong with me or something always niggling away so. But I've never felt like I've letting the team down but I do appreciate other athletes if they have got something in their injury and are hiding it to say they're not hiding it because it could not benefit the team.

Interviewer: Because of the substitution rules and that you only get 3 subs are you more willing to play through injury knowing that the team might need the sub later on?

Never really thought about that question before. Being the goalkeeper it's completely different because I don't know. You don't really tend to sub the goalkeeper unless he's really injured so, and that's only ever happened to me once and that was last season. So I don't know, it's a weird question really.

Interviewer: What do you think the manager's opinions are on concussions?

Probably quite serious actually. Most managers have played like a lot of professional football themselves and been footballers themselves not everyone but most people and probably know or been concussed before so maybe they know how quite serious it is.

Interviewer: How does the opinion of the manger influence you reporting a possible injury?

Quite strong really, I don't know. The manager's opinion the manger picks the team so quite strong I'd say.

Interviewer: Can you tell me about fan support surrounding the team?

Fan support? What do you mean? Good or bad? It's quite good really. Could be better could be worse, but on a general basis 80%, 90% quite good.

Interviewer: Does fan support and opinion play a role in your likelihood to play through injuries?

No not really. Try to be more professional and put it down to me at the end of the day.

Interviewer: Does fan support and opinion play a role in your likelihood to report a concussion?

Well, I wouldn't, it's like you keep, I wouldn't know, I don't know, basically by reading that I'm getting to know the symptoms of a concussion now. I think the physio would always know that if I was concussed or not or what level I was concussed or not.

Interviewer: What do you think the fans views are on concussions?

Probably don't have a clue what it is. Or they, I don't know. Wouldn't know what the symptoms are. It's hard to see if someone's concussed or not. It's not, basically, obviously if someone's leg sticking out through the skin they've got a broken leg but concussion, a bit different.

Interviewer: Does your family play a role in your injury reporting?

No not really no. It's down to me at the end of the day.

Interviewer: Who are you most likely to report a concussion to?

These two lads here. The physios.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yes. Straight away. Having done this survey I probably would now.

Interviewer: Have you or do you know someone who has hidden a concussion from a physio or team doctor in order to play.

No never.

Interviewer: What do you think your teammates views are on concussions?

Quite serious. Or they will be after have done this now so yeah, I'd be reporting it straight away.

Interviewer: What do you think the physios think about concussions?

Probably quite serious as well.

Interviewer: Do you know FIFA's concussion policy?

No, do you know? Can you tell me?

Interviewer: In a minute. Where did you get your knowledge about concussions from?

Just past experiences really and obviously just doing that survey then has made me more aware of how serious it is obviously. And we're doing this whole thing it's probably quite serious. And now you've told me FIFA has a policy about it so it's probably quite serious.

Interviewer: Can you tell me about the concussion that you got?

I was in the U team at my previous club. I'm a goalkeeper and so I came and slid for a ball and I got the ball before the striker and the striker kicked my head like a football and, well I don't even remember that. I just remember collecting the ball. That's the last thing I remember and then everybody else said to me that the player had kicked my head like a football. He thought he could get to the ball before I did and I got it there before him and he kicked my head like a football. Like a proper shot like close blank like point blank range and I got the concussion.

Interviewer: What's the next thing you remember after that?

Waking up in the physio room and the doctor being there and the paramedic being there. I was able to go on the same day just had to keep an eye on it for the next 10 days wasn't allowed to do anything for the next 10 days.

Interviewer: So you went back and finished the match?

No no no. Came straight off. Sorry. No no no.

Interviewer: Sorry you said you carried on.

No no no, I carried on, I don't know, ignore that. When it happened I just remember waking up in the physio room. I don't know if I'd been asleep or not. And people telling me what happened but I was, took me a while to come around and it was only people telling me what happened that I can actually tell you now what actually happened.

MICHAEL

Interviewer: Can you tell me about your typical day to day life as professional footballer?

Come in, get changed, train. Just the basic stuff really. Just come in, stretch, make sure I'm all right and everything for the training. Get my back and my vitals all checked and everything before I go out onto the field. And then go out and train. And then obviously after training, come back in. Maybe do a program, injury prevention program after training. And then maybe do some weights and then obviously go home. Eat, sleep, and come back the next day.

Interviewer: Do you get noticed outside of games?

Outside of games? Yeah unfortunately.

Interviewer: Unfortunately?

Yeah unfortunately. Yeah it can be a bit of a pain.

Interviewer: Why do you say that?

Especially when you're out with the children doing something and people might want to have a very lengthy conversation with you about a certain game on a Saturday and it can be quite irritating like that. It does have its plus sides, but when you're out with the children and out with family it's, I'd rather just be left alone.

Interviewer: When you get noticed are people generally friendly or?

Yeah yeah they are always friendly and then they slag you off on the internet anyways so it don't matter. No it was all general friendly. So it's, a lot of people just ask for photos and signatures and that's it really.

Interviewer: How would you define a footballer's migraine?

A footballer's migraine? Don't know, a headache. That's all I can say.

Interviewer: If you had one would you play through it?

Yeah yeah yeah take some tablets and that's it.

Interviewer: How would you define a concussion?

A concussion, is probably something that has happened, especially trauma, a blow to the head, dizziness, sickness, blurred vision, just something that makes you unwell.

Interviewer: What's the difference between a migraine/headache and a concussion?

Migraine you can take some paracetamol and it'll be gone. Concussion can stay, can make you feel sick, make you feel dizzy, and just basically lose direction of where/what you need to do.

Interviewer: If you had a concussion would you play through it?

I'd try, I'd try, but it depends on the extent of the concussion. I feel we're probably quite aware that a concussion, some can probably be more worse, worse than others really. It just depends on how you feel really. If you're knocked out and you feel dizzy and stuff, once you get yourself checked out by the physio, the physios do tend to step in and say no. The club doctor and that, but it's just when you're hyped up on the pitch you wanna play through anything.

Interviewer: So you would try and play through?

I would try and convince the physio to let me carry on but I'm sure they probably wouldn't.

Interviewer: Do you think you would be able to tell if you got a concussion on the pitch?

Yeah because you wouldn't feel right. You'd know you were dizzy seeing stars and whatever so. And I've had them in the past when I've been knocked out, felt dizzy, blurred vision, loss of sight, so you can't carry on like that.

Interviewer: What's the difference between, you said seeing stars, and a concussion?

I wouldn't really know to be fair. I just probably, seeing stars can be, you can get them just from a knock on the head and you're not gonna be concussed. So that's the difference. Seeing stars doesn't necessarily mean that you've got concussion.

Interviewer: Do you think there's any risks of playing through a concussion?

Yeah there probably is yeah. There probably is, I wouldn't really know much about it, too much about it.

Interviewer: Compared to other injuries how serious do you think concussions are?

They are obviously pretty serious but, I wouldn't put it up there as massive. The thing is that you know you're gonna get over it in a few days time. Whereas other injuries can last months, weeks, days, years, you know. So obviously you're gonna recover from it.

Interviewer: Do you think concussions are a problem in football?

No, no I don't think so.

Interviewer: If you sustain a concussion when should you be removed from play?

Depending on what the doctor says, probably straight away. Obviously the physio will come on, and then check you over to the doctor and see what he says.

Interviewer: How serious do symptoms have to be before a player should be removed?

It all depends on what the doctor says. It's probably more in their hands than what the player's symptoms are so I couldn't really answer that.

Interviewer: Who should decide if a player should be removed from a game?

Doctor, physios, and the manager.

Interviewer: You said and the manager?

Yeah.

Interviewer: So all three of them?

Yeah yeah, they should know.

Interviewer: Who should have the most weight?

Doctor, club doctor.

Interviewer: How long should a person with a concussion be out for?

Days, days is, I've known players who have been out of it and come back training for probably about 4 or 5 days.

Interviewer: Who should decide when a player can return to play after a concussion?

Club doctor.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yes. I can't really elaborate on that really. Yeah it does yeah.

Interviewer: So you're more likely to report injuries during preseason as opposed to big games or?

Well you wanna play through big games and stuff. But yeah you just report if you have an injury report it. Always report it.

Interviewer: Regardless of if there's a big game coming up?

You can report it on the sly, just let your physio know and then just see what they can do for you and then you just carry on through.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

No, no I think it's unfair there's a big enough squad in the team that it gives another player an opportunity. If you're not 100% fit there's no point in pushing it if you're not gonna be able to give your 100% on the pitch.

Interviewer: Because of the substitution rules and that you only get 3 subs, are you more willing to play through an injury knowing that your team might need the sub later on?

Like I said if you're not 100% you shouldn't be playing in the team so really you shouldn't be out on the field if you're like that because you're just letting the team down you shouldn't be doing it for yourself.

Interviewer: So the substitution rules have no bearing?

No not really no.

Interviewer: What do you think the manager's opinions are on concussions?

I don't know. I'm probably sure that they know it's serious, pretty serious but that's all I know.

Interviewer: How does the opinion of the manager influence you reporting injuries?

Pretty high, because he needs to know because he needs to pick the team. So he doesn't want to have a player who's struggling in the team and then not being able to get through so that's it.

Interviewer: So his opinion matters?

Yeah it does.

Interviewer: Can you tell me a little bit more about your fans? Just game day just kind of in general.

Loud exciting, they set the mood, they set the tone for the game. Yeah, just good, good opportunity to play in front of home fans really.

Interviewer: Generally positive or negative?

Mixed

Interviewer: Depends on the results?

Yeah depends on how the teams been doing.

Interviewer: How does fan support and opinion play a role in your willingness to report injuries?

It doesn't matter. It's about you and the club. The fans will come around as well.

Interviewer: Does fan support and opinion play a role in your likelihood to report a concussion?

No no nothing, it's completely different.

Interviewer: What do you think the fan's views are on concussions?

I don't know. I really wouldn't know. They probably think oh just get on with it a lot of them. A majority of them don't know much about it to be honest.

Interviewer: Does your family play a role in your injury reporting?

No. Not at all.

Interviewer: Who are you most likely to report a concussion to?

Club doctor I'd say. I'd phone the physios up and they'd pass you to the club doctor and then go from there.

Interviewer: If you suspected a teammate of having a concussion would you report it?

I'd ask him if he's alright, speak to him, and then pass the information on to the physios so yeah I probably would.

Interviewer: Have you or do you know someone who has hidden a concussion from a physio or team doc in order to play?

No, never.

Interviewer: What do you think your teammates views are on concussions?

Probably pretty serious I'd say but depending on how bad they feel or how good they feel then they'll carry on or whatever. I think it's pretty similar I'd like to think.

Interviewer: What do you think the physios views are on concussions?

They rate them very very highly anything to do with that's going to affect the player on the pitch, they are going to take very very high.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your knowledge from? Your concussion knowledge.

From having them before.

Interviewer: Can you tell me what happened, the two times you've gotten concussions?

One was playing rugby. I collided with a player, lost my vision, lost about an hour of the day, carried into the hospital. I had blurred vision for two days and couldn't do no sports for about a week. The other one was, went up for a header and got smashed in the face, me eye. Had to have 18 stitches in me eye, was knocked out, blood everywhere. I was taken to the hospital. That was pretty minor concussion, I was knocked out and when I come around, just dizzy felt sick but then I went out in the evening and had a meal. So I was alright just apart from the swollen eye and that was it.

ANTHONY

Interviewer: Can you tell me about your typical day to day life as a professional footballer?

Wake up in the morning, get showered, get some breakfast. Then, obviously get ready for training. Come to the training ground about 9:00 between 9-9:30. Get into my training gear. Start training at 10:30. Get home about half 1, 2. Go home look after the little one. Maybe take him to the park or something like that. Then after that just relax all night and watch a bit of TV.

Interviewer: Do you get noticed outside of games?

Sometimes yeah. Mainly by the young children that support the club. You get the odd older people but not all the time it's mostly younger kids.

Interviewer: What's the general reaction or conversation you have when they notice you?

No they just say hello and things like that so obviously say hello back. They might ask for a photo so you give them a photo if they want one or an autograph. So there's not really much conversation, there's just a bit of politeness from my side. That's obviously what we're there for as well.

Interviewer: How would define a footballer's migraine?

I ain't got a clue. Don't really know.

Interviewer: If you had to explain to someone what it felt like?

Well I've never had one so I wouldn't really know.

Interviewer: How would you define a concussion?

Same again, I don't know much about concussion. I don't think I've had it. I think I'd know if I had it. But I don't know much about that so I couldn't explain that either.

Interviewer: How do you think people get them?

Possibly hitting their head the wrong way maybe. Falling and hitting their head the wrong way on the floor. Or a head to head clash just something along them lines.

Interviewer: If you had one do you think you would play through it?

Well I don't really know how bad they are so, with the questionnaire I've put no to most things that I shouldn't play through it so I'd probably say no to playing through it.

Interviewer: Do you think there's any risks of playing through it?

Yeah well I'd say there is. It's your head and obviously I'm guessing it has something to do with your brain it's all in your head. So it probably wouldn't be right to carry on and you might get other side effects to it.

Interviewer: Do you think you would know if you got a concussion while you were on the pitch?

Yeah well I think, obviously I think because me head, I'm guessing my head would be hurting. So I'd obviously see the physio and I'd like to think they'd tell me that it's a concussion and I shouldn't be playing on. I'd like to think that's what the feedback I'd get from them.

Interviewer: Compared to other injuries how serious do you think concussions are?

Well I think it's very serious. I think, obviously like I've said already it's part of your head. It's probably, you shouldn't really be playing around with your head at the end of the day. It's where your brain is that's what keeps you going.

Interviewer: Do you think concussions are a problem in football?

Well you don't really hear much about concussion in football so I'd say no.

Interviewer: Through the media or through the physios or what do you mean?

Just through the media, physios, you don't hear. Like for instance you don't hear of many injuries of concussion. You'll hear of, you might get 10 a season for instance in the media but it's not really made out to be a big thing.

Interviewer: Compared to what other kind of injuries that they think are big?

Like I think, like to knee injuries and stuff like that because we've got a couple of players that have had cruciate injuries to the knees. But I think that's because they are more common in football that they are made out to be bigger.

Interviewer: If you sustained a concussion, when should you be removed from play?

As soon as possible really. Obviously get off the pitch as soon as possible and make sure that everything is right.

Interviewer: How serious do symptoms have to be before a player should be removed?

Well even if it's mild concussion I still think you should be off the pitch because you're probably not functioning right.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

I think it's the player's health that's more important. I think the player should, if he knows it's a concussion, then they should say to themselves, I'm not going back on or the physio should even advise you not to go back on. And then you go from there you obviously say you're coming off or the physio don't let you go back on.

Interviewer: So whose decision should it be?

The player's decision.

Interviewer: How long should a person with a concussion be out for?

I don't know. Maybe a month, maybe less than that. I don't know much about that really.

Interviewer: Who should decide when a player can go back after they have a concussion?

I think it's just when, the physio should know the time scales of when to put a player back into play after having a concussion. And if the player feels 100% then I think that obviously you both agree to go back into training and things like that and then go back into work.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah, well obviously the match day is the most important thing. Some people sometimes play through an injury because of how important it is to obviously to the team, the club, the fans. So I think even though you do report it, you will always say you're alright to carry on unless it's too serious.

Interviewer: Have you ever not reported an injury for fear of letting the team or teammates down?

Yeah, I think people don't want to let their mates down. I think sometimes you think, I'm gonna try and play through the injury and obviously end up making it worse for instance. So, there is people like that, but I think sometimes you should always be honest with the team and say I don't think I'm up to it. Today I'm not playing.

Interviewer: Because of the substitution rules and that you only get 3 subs, are you more likely to play on through an injury knowing that your team might need a sub later on?

Yeah I think that also helps because you know if you're not feeling 100% or it's getting worse during the game you can always put your hand up and you can be taken off. But I think sometimes then you're just giving the team an unfair advantage through playing through the injury.

Interviewer: Giving your opponents an unfair advantage?

Well giving your opponents an advantage and obviously we're at a disadvantage.

Interviewer: What do you think your manager's opinions are on concussions?

I'd like to, he come across as a very intelligent manager so I'm guess he'd know a little bit about stuff like that. So I think if you turn around and said to him I think I've got concussion he'd bring you off. He always tells you just make sure you're all right that's the main thing. He's a very family based man and making sure everything is all right.

Interviewer: How does the manager influence you reporting injuries?

Well the manager's influence here is if you're injured you can just miss out training as long as you're all right for match day. So I think that helps sometimes where he's a little bit lenient with stuff like that.

Interviewer: Can you talk to me a little bit more about the fans in general?

The fans are, we get an average of 26,000 fans a year. They are good they obviously come and pay their money to voice the opinions, which is fair enough because they're paying hard earned money. So when they're good their brilliant and you can't knock them. And they are always allowed to have their opinion because at the end of the day they are spending a lot to come and watch our games so we can't knock them when they have things to say.

Interviewer: Does fan support and opinion play a role in you likelihood to play through injuries?

No not really. I think a fan would also like you not to play if you're injured because obviously at the end of the day they just want to see you win. So it doesn't matter what 11 players are out there they just want you to win at the end of the day.

Interviewer: What about for a concussion, playing through a concussion, does fan support and opinion influence that?

No I'm think, I'm guessing fans would know it wouldn't be easy to try and play through that. I think it's like majority of things, as long as everyone is ok and healthy that's the main thing.

Interviewer: So what do you think the fan's think, their views are on concussions?

Not to play through it, but I don't know.

Interviewer: Does your family play a role in your injury reporting?

No.

Interviewer: Who are you most likely to report a concussion to?

The head physio.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Well yeah I'd like to think I would, just in case they didn't want to say nothing or they was a bit worried about things.

Interviewer: Have you or do you know someone who's hidden a concussion from a physio or team doc in order to play?

No never.

Interviewer: What do you think your teammates views are on concussions?

I don't know we've never spoke about it. I'm guessing that they'd say the same. If you've got it just make sure you're all right and do the right thing.

Interviewer: What do you think the physios think about concussions?

Bloody hell, they'll probably make you play on through it. No I'm guess they'd do the right thing for the player at the end of the day. Like I've said before it's more important that the player's health is ok.

Interviewer: Do you know FIFA's concussion policy?

No.

Interviewer: Where did you get your concussion knowledge from?

I ain't got no concussion knowledge.

AARON

Interviewer: Can you tell me about your day to day life as a professional footballer?

Yeah, Wake up and breakfast and all that?

Interviewer: Sure start at the beginning of the day.

Wake up at 8. Come in, treatment at the moment because I'm injured. Train. Have breakfast at home first. Do some extra training. You feel quite free as professional footballer because you have quite a lot of spare time. You, it's still a little bit new to me because I've only been professional for a month. So, but a lot of training. People don't realize how hard it actually is.

Interviewer: Do you get noticed outside of games?

Yeah people notice you, know your name. It's a little bit scary to be honest because people you've never met, you meet in the shop and they just come up and start speaking to you. And the scariest part of it is that it's a powerful thing. You have to be ready for that, it's a bit weird.

Interviewer: When people talk to you, what kind of conversations do you have?

It's mainly how are you. If we start speaking it's, because I'm foreign, how I came to the club, how I'm doing, who I'm training with, just any famous players, they ask how they are. Autographs.

Interviewer: Is it positive or negative generally?

It's more, they always try to be welcoming and positive. I haven't had negative things. They always try to be welcoming.

Interviewer: How would you define a footballer's migraine?

A footballer's what?

Interviewer: Migraine.

What's that?

Interviewer: Migraine. You've never heard of it?

(Background physio, it's a headache, like a severe headache)

What do you mean by that?

Interviewer: That, that it's just a severe. Have you ever had one?

Yeah

Interviewer: If you had one would you play through it?

Depends on the occasion. If it was a final of a really important nature I probably would. If it was a training session, or a training match, I wouldn't.

Interviewer: What about just a regular game?

No I wouldn't.

Interviewer: How would you define a concussion?

Define a concussion. You're dizzy, you don't know exactly what's happened. A little bit of memory loss. Maybe a little problems with balance. Struggle to stand up.

Interviewer: Would you play through a concussion?

I've never had one but I don't think I would.

Interviewer: Do you think you would know if you got one on the field?

Probably not. But of course you would have a pain in your head and normally I would be quite careful with that.

Interviewer: Do you think there's any risks of playing through concussions?

Yeah. A lot of them. Especially if it's not your first. I can definitely affect your future just after the concussions. Especially if it's a big one.

Interviewer: Compared to other injuries how serious are concussions?

It's a very serious one, but you might, it's a dangerous one because you might want to play through it. Of course if you had a broken arm you wouldn't play through that because you know you had a broken arm. But with concussion you don't know exactly that you've got it so. Compared to others, it's a dangerous one but you don't notice it that much so it probably slips away sometimes.

Interviewer: Do you think concussions are a problem in football?

Yeah as I said because it's a very important match and the player just want to get on with it and he might not say he want to go on the field even though he got a concussion and he

shouldn't and the manager just take it for granted. The physios have to man up and say they can't play even though the manager wants it to.

Interviewer: If you sustain a concussion when should you be removed from play?

Straight away.

Interviewer: How serious do symptoms of a concussion have to be before a player needs to be removed from a game?

Sometimes when two players go up to head the ball and then they head each other, sometimes it's just like a tiny thing and it's painful at the moment but you don't know if it's going to go away. You just have to be careful. If there's a clash and you black out there's no way you should go on.

Interviewer: So if they black out they should come out but what about if they?

If it's just a little nudge in the back of the head and they feel fine I'd say you can play on. But if it's bad you probably shouldn't but a lot of players would.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

The physios should have the main word. The manager shouldn't have anything to say because it's such a big injury. Even though he wants to play the player it should be the physio, it should.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yes it does. If it's a little hamstring feels tight before a match, you probably wouldn't report it because it's just a small thing and it might be torn in the match. Depends a little on the occasion if it's the champions league final you'll probably play through it and might risk being injured for a month after. It shouldn't but it does.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

No because I've never had any small injuries. No I don't think so.

Interviewer: Because of the substitution rules and that you only get 3 subs, are you more willing to play through injury knowing that your team might need the sub later on?

I've never thought of that to be honest. It probably would if it's the 80th minute and you get injury and all 3 subs have been used, you probably would try to play through instead of coming off.

Interviewer: What do you think the manager's opinions are on concussions?

I think if you asked him outside a game he would say it's a serious injury. But in the heat of the moment, I think he'd just let the player get on with it. It sounded harsh but I think that's how he is.

Interviewer: How does the opinion of the manager influence you reporting a concussion?

It shouldn't. It shouldn't really, you should report a concussion if you've got one. You have to be careful with them, stay out and make sure you get a rest.

Interviewer: How long should a player be out with a concussion?

At least a week if he feels perfectly fine. It depends on if you have any symptoms after a week, then you should have 2 weeks but if everything feels fine after a week you should get on with it.

Interviewer: Can you tell me a little more about the fans surrounding the team?

I don't know that much about it, but I know that to start with about 30,000 fans at every match. A lot of people know your name and will speak to you, ask for autograph and pictures. They are welcoming and nice but it can be a little too much sometimes.

Interviewer: Does fan support and opinion play a role in your likelihood to play through injuries?

No, they just want you to play. They don't care about if your broken leg or concussion or anything they just want you to play. That might affect your performance, but I don't think it would affect my game if a fan said play on.

Interviewer: Same if you had a concussion? Would fan opinion play a role in your playing through a concussion?

No no it wouldn't. Not if it was a fan.

Interviewer: What do you think the fans think about concussions?

They probably don't think it's very serious. If they clash heads it's nothing, just get up and get on with it that's what they think.

Interviewer: Does your family play a role in your injury reporting?

My dad is a physiotherapist so if I ever doubt reporting injury I can always speak to him first. So yes in this case yes.

Interviewer: Who are you most likely to report a concussion to?

The physios straight away. I've never had a concussion so it would be hard, but I probably would report it to the physios straight away.

Interviewer: If you suspected a teammate of having a concussion would you report it?

I don't think I would if the person with a concussion wouldn't report it. I wouldn't go behind his back and say. If I know he can't stand up I would but I wouldn't go behind his back.

Interviewer: Do you know anyone who has hidden a concussion from a physio or team doc in order to play?

No.

Interviewer: What do you think your teammates views are on concussions?

I think they think it's serious but they, I don't think they realize how serious a concussion is. A little bit unaware some of them I'd say as well.

Interviewer: What do you think the physios views are on concussions?

I think they should give a little bit more information because they've never given anything about concussions to us. I think they think it's really serious because it's head injuries.

Interviewer: Do you know FIFA's concussion policy?

No.

Interviewer: Where did you get your concussion knowledge from?

I've seen a few people with concussion and how they act, but other than that, you come by it and hear a little bit but mainly just what I think.

CHARLES

Interviewer: Can you tell me about your day to day life as a professional footballer?

In what sense? Training or?

Interviewer: Just what your general day looks like.

My general day would be I'd wake up between seven and half past. Have some breakfast. Kind of normally leave my house about 8:00. At the moment I live far away from training so it maybe takes me three quarters of an hour to get into training. Get into training come in have a stretch. Do any work in the gym I need to do. Kind of pretraining regime. Train half past ten till half twelve. Maybe stay out for a half hour after depending if there's particular things I need to work on depending on the day of the week and how close I am to a game. If I'm close to a game I'm less likely to do extra work and probably get off home earlier. Have some lunch and then either train in the afternoon depending on the schedule or go home and rest up and if it's close to a game maybe a couple hours sleep in the afternoon. Have dinner, maybe go for a walk and just chill really.

Interviewer: Do you get noticed outside of games?

You can do in (City) especially. Kind of, normally the closer you are or if the scenario that is gonna have football fans in it. Normally no, a majority of the time no.

Interviewer: How would you define a footballer's migraine?

A footballer's migraine. I wouldn't know it was any different to a migraine.

Interviewer: Ok how would you define a migraine?

I'd define a migraine as a persistent severe headache.

Interviewer: If you had one would you play through it?

Possibly. Yeah depending, if it was just a headache, just a severe headache then I'd probably think it's not wise to but I may do yeah.

Interviewer: How do you define a concussion?

I would define a concussion of a period of abnormality after either a severe blow or a collision. And then the post effects to that being abnormality i.e. the loss of vision or memory loss.

Interviewer: So what's the difference between a migraine and a concussion?

I'd say a migraine is a persistent headache which, a severe headache that carries on. Whereas a concussion is a period after a blow or an incident that is of abnormality. So the period post to a blow, which causes the recipient to experience symptoms that they wouldn't usually have.

Interviewer: Would you play through a concussion?

I have done so I'd be silly not to say I have.

Interviewer: Do you think there's any risks of playing through?

Yeah. I don't think it's wise to no.

Interviewer: Do you think you would know if you got a concussion on the pitch?

See, speaking from personal experience, I didn't think I was concussed. I was probably in denial thinking I wasn't concussed. I just thought it was severe blow. But after having concussion I realized I did have concussion because looking back at the event and after the event, I was not of sane. I didn't know what was going on and I forgot a lot about it.

Interviewer: Compared to other injuries how serious do you think concussions are?

Well I don't think it should be looked up on as, I suppose in male sports it probably could be looked up on as an unmacho thing to say you have concussion. So I probably is looked upon badly but I'm sure it can be as severe as any other injuries. So yeah I wouldn't undermine it in any way.

Interviewer: Do you think concussions are a problem in football?

I don't think they are a problem compared to any other contact sport. I wouldn't say there's a problem but compared to a sport of something more physical like rugby or American football then I'm sure that more concussions happen than in soccer. But I do know of people playing through concussions so probably isn't wise to be doing that.

Interviewer: If you sustain a concussion when should you be removed from play?

When it's probably determined that you have concussion. If you are identified of having concussion I'd probably think that it's not wise to carry on.

Interviewer: How serious do symptoms have to be before a player needs to be removed from a match?

Once the symptoms determine that they have concussion. If it's just a blow then you know you can carry on. But then if someone of medical training knows that you have concussion then I think you should be removed immediately.

Interviewer: Who should decide if a player should be removed?

The person who is medically responsible. Not the player because the player is gonna have ego, he's gonna have a sense of responsibility in not letting people down. So I think it should be taken out of their hands. If it is determined that yes you have concussion, then it shouldn't be the players, because he's already been determined not to be of sane or normal mind state.

Interviewer: How long should a person with a concussion be out for?

I don't know the official. I don't know. I've not had medical training to know that but I'd probably suggest that he probably shouldn't train for a few days at least maybe. I suppose if he's had a blow on the head then he probably is gonna be susceptible to being, maybe he has a blow to the same place and I don't think it would be something that, it could be worse than the initial blow so yeah probably a while.

Interviewer: Who should decide when a player can return to play after a concussion?

The medical staff who are in charge of him.

Interviewer: So team doctor, physio?

Physio yeah. Not the player because he's going to have ego and responsibility and he's going to want to play. He's not going to want to be missing games because it could affect him getting back in the team. It could affect his money if he's paid per game as opposed to a week. So it should be the medical staff not him.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah because players want to play at the end of the day and not everything athletes do is meaning their going to have a healthy lifestyle. But a lot of things athletes do mean that they're gonna get through a game or they're gonna be ready for a game. But in the long term probably not going affect or be good for their health in the long term. But athletes do that because they have a willingness to play.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

I have yeah. I've played through injuries when maybe I shouldn't. But then I've felt responsibility to play when maybe there's been times when I knew that the person who

was going to step in for me maybe wasn't ready or wasn't as good in my opinion. I don't necessarily think it's right but I have.

Interviewer: Because of the substitution rules and that you only get 3 subs are you more willing to play through injury knowing that your team might need a sub later on?

Well you have to yeah because that's just football in general. But yeah if you think you can get through something in order to help the greater cause, the team, then you are probably like to play on yeah.

Interviewer: What do you think the manager's opinions are on concussions?

Well I think if you ask them out of a game scenario they'd probably say of responsibility saying that they would eject a player immediately and because they are responsible for their team they'd say that anyone with a concussion can't play. But in the heat of a game situation where results matter and especially in football where it is so cutthroat I'm sure managers would think differently if we've already used 3 substitutions and a player with a concussion needs to come off and we're gonna be one man down I'm sure managers are more likely to say keep him on because I know it happens I've seen it happen.

Interviewer: You've seen it happen?

Yeah I've known players carry on when they're not fit. And probably at a later date the manager will probably think you know, I probably shouldn't have kept him on. I've seen that a lot of times.

Interviewer: Does the opinion of the manager influence you reporting a possible concussion?

Yeah, if you've got a manager who you like and you want to play for and you're say a favorite or someone who's doing well for him then you're going to show that you're willing to help him out because players are loyal to people they like. Whereas I'm sure if there's a manager that you're not particularly getting on with well at the moment and you don't agree then you're probably less likely to help him if he hasn't helped you out in previous times.

Interviewer: Can you tell me just about fan support surrounding the team?

Well at our club it's very good. We have a good fan base we're quite a big team in our division so it's very good. It definitely helps when we play on a match day and we play in front of on average 28,000 people so yeah it can only help you. But it can also be a negative at times. There's times when you want to get away from it and you don't particularly want to be hassled, you want to forget about football. But then we have responsibility we are lucky we are fortunate. So it seems ungrateful to complain about a few duties outside of football here and there but unfortunately that's football and you

sound ungrateful by saying that but everyone has their family and wants their private life. Just because you play football doesn't mean you crave the attention. It's far from it.

Interviewer: Does fan support and opinion play a role in your likelihood to play through an injury?

Not so much as a manager's influence or your other teammates influence no I don't think so. You would never say that in the press. Of course you wouldn't but I think you're less likely to play through it for the fans. It's very rare that you have players that are that connected to the fans that they feel an obligation to play. I know they do because you do feel an obligation but not to that extent not to risk your own personal health. I'd say it's less likely than for the managers or for your fellow teammates or for yourself.

Interviewer: Does fan support and opinion play a role in your likelihood to play through a concussion?

Same answer really.

Interviewer: What do you think the fan's views are on concussions?

Well, football is very much a tribal association of the players and the whole working 9 to 5 and then getting out and having that mentality of the weekend to be associated with a team and just very gladiatorial inside. So I think that they probably think they should play on with it and you're representing the team and you get on with it and you deal with the repercussions probably after you've got through the games I'd say. As a fan and knowing football fans and my friends they'd say the same.

Interviewer: Does your family play a role in your injury reporting?

Family? Maybe with severe injuries yeah I suppose. I mean you think about it's your career and if you're going to do something that's going to affect your health and you have a family to think about to provide for then yeah I'd it does for some of the other lads. I'm a single lad who just hasn't got a family so probably not so much for me. I can think for myself but if I've got children and a family who depend on me then yeah it probably would affect me.

Interviewer: Who are you most likely to report a concussion to?

The team physio.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yeah if it was during a game and you could tell that they weren't normal and they were just getting thorough then yeah you would because especially here we have a really close team so I'd be looking out for a friend definitely.

Interviewer: Have you or do you know someone who's hidden a concussion from a physio or team doctor in order to play?

Yeah some have done it unknowingly as well potentially. But I've known players who have done it intentionally.

Interviewer: That haven't?

They haven't reported to try and play.

Interviewer: Big games?

Just general games. Some players of that kind of more macho kind of you know, you have players that will play through anything. I know players who have done that yeah.

Interviewer: What do you think your teammates views are on concussions?

I'd probably say they think the same as me. You'd want players to get through it and help you out as a team and be willing to. But as responsible friend I would want to look out for their health more than for football. In a game situation it might be a bit different. In the heat of the moment when the emotions taken over I may be willing encouraging to say come on get through the last 10 minutes. But as I look at I know as a rational, out of it, of course I'd rather them be healthy than risk their life or their health definitely.

Interviewer: What do you think the physios think about concussions? What are their views?

I'm sure they're well calculated. If you're a physio you've got to be responsible. I think in all likelihood they'd stand up for if they know they have a player with a concussion. I like to think their obligation is to look after players and stand up against the manager if he doesn't think because at the end of the day that's their medical responsibility. We put our health in their judgment so I think, I know they would.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your concussion knowledge from?

Probably pass me down hearsay. I've never read up anything about it. I've done an EFR training course and know a little bit about it but nothing of any real detail no.

Interviewer: Can you tell me about the two concussions that you've had?

I had two. I had one in the first minute of a game. I'm a goalkeeper so I came for a throw in and got elbowed knocked down. Was down for a few minutes. Kind of came round you know kind of, wasn't knocked out but was very much shaken. Came round with the magic sponge and all that carried on the game and played the whole game with concussion.

Interviewer: You said the magic sponge?

You know when the physio comes on, it's always determined the physio, when they come onto the pitch they never really do anything. It's always, in the game of football you always say it's the magic sponge. You know a bit of water and a sponge on your head and it makes you feel better. I mean really there's not much physios can do on the side of the pitch is it. Maybe a bit of freeze spray on or something so. But yeah I played the whole game with concussion. Probably shouldn't have looking back. That was once. That was my first time. The second time I got concussion in the second half of a game. Came out for a through ball and slid my head into someone's knee and got, carried on. The game didn't even stop. The blow wasn't as severe but I had concussion definitely because when I came back afterwards I was out of it. Once I stopped, the game stopped and I was definitely suffering from concussion.

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I've never experienced someone having a concussion though I'm just saying.

Interviewer: Ok that's fine. Can you tell me about your typical day to day life as a professional footballer?

Come into training early. Have breakfast. Start training at 10:30. Finish training. Have lunch and then after I have lunch have a shower, go home really and that's it. Then relax watch DVDs, play computer, depends. Go out to eat.

Interviewer: Do you get noticed outside of games?

Sometimes, depends where I am.

Interviewer: How do typical interactions go when you do get noticed?

People shout your name, sometimes asking for autographs or some people just saying hello really.

Interviewer: Is it positive or negative?

Mostly positive to be fair. No one's really come to your face and said anything negative because whoever might get a reaction that they probably won't like. You never know.

Interviewer: How would you define a footballer's migraine?

Headache in the sinuses. Just a headache really in the sinuses.

Interviewer: If you had one would you play through it?

Depends on how serious it would be or if it was hurting as much or if it was a little one.

Interviewer: So it depends on how serious it is?

Yeah

Interviewer: How would you define a concussion?

I've never really experienced it or anyone experienced it around me to be fair so I wouldn't really know. Probably just dizziness you could say and then losing memory probably sometimes as well. You never know depends on how big the bang was to the head or something like that.

Interviewer: How do you think people get them?

I'm not sure. I'm not sure. I would say a bang to the head but I'm not really sure. That's just general.

Interviewer: If you had one do you think you would play through it?

Again, depends on how serious.

Interviewer: What do you mean how serious? What would you play through and what wouldn't you play through?

I wouldn't really know the symptoms because I've never had nothing before but, I probably would carry on if it was just like a headache or something like. But it could be a mild concussion really so you wouldn't really know until you get a scan or something like that.

Interviewer: So you wouldn't know if you got one on the field?

I wouldn't, well it would depend if I banged my head on the field or someone elbows me in the head I probably would feel a bit like, dizziness and a loss of memory or didn't know where I was. Then that's probably, I wouldn't really play if I knew them same symptoms would happen.

Interviewer: Ok and did you said something about a scan?

Yeah like if I get a CAT scan or something just to see if anything's wrong with your head or brain damaged. Then you would know what a concussion, or what it is.

Interviewer: Do you think there's risks of playing through a concussion?

Yeah. Because see if you don't get treated then it could just be long term and could cause you brain damage.

Interviewer: Compared to other injuries how serious are concussions?

It's up there with the seriousness of injury I think. It is very very very serious.

Interviewer: Do you think concussions are a problem in football?

You never really know really you could say until actually something serious probably happens. But you could actually have a mild concussion and you don't really know you've got something you could think it's just a little headache or something like that. But you never know it could be, it could actually make it more permanent damage.

Interviewer: If you sustain a concussion when should you be removed from play?

Straight away.

Interviewer: How serious do symptoms have to be before you should be removed?
Dizziness and can't really function with your body really.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

The physio that comes on. Or probably yourself if you're feeling it when you're on and they're not the pitch you just go down and tell somebody.

Interviewer: How long should a person with a concussion be out for?

Out of football? I'm not really sure depends how the concussion is. But I would say about three weeks, three weeks plus.

Interviewer: Who should decide when a player should return to play from a concussion?

Doctor.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah depends really some people just want to play and just have a willingness like to carry on playing and try and make the team win really. Some people will fight through it, not know what they've got or how serious it is.

Interviewer: They'll just play regardless?

Yeah like some people's mentality is just to keep going no matter what unless you drop dead. That's obviously different but people just fight till the end really.

Interviewer: So are you more likely to report injuries before big games? Are you less likely?

Depends how serious the injury is. More than likely I would report it no matter what it is really. Just to make sure, I mean if it's something small it could get dealt with or if it's something big then it definitely could get dealt with.

Interviewer: Have you ever not reported an injury for fear of letting your team or your teammates down?

Probably when I was younger but not to date.

Interviewer: Because of the substitution rules and that you only get 3 subs, are you more willing to play through injury knowing that your team might need the sub later on?

Depends how serious the injury is. If it's something I could deal with and carry on playing then yeah. But then if it's more severe then I'd tell the manager to take me off. Further risking myself and getting injured even longer. I've done that before. Carried on playing and made it more worse. So I've learned from that really.

Interviewer: What do you think the manager's opinions are on concussions?

Well I'm sure it should be quite serious really obviously. But I'm not really sure about some manager's because I never really experienced it but I'm sure that the manager would be very aware of it really.

Interviewer: How does the opinion of the manager influence you reporting a possible concussions?

I don't think, if it was still for myself I'd still report it anyway. I would tell him and carry on really or whatever's best.

Interviewer: Can you tell me about fan support surrounding your team? A little more just about the fans?

Up and down really with the fans here. Sometimes they're backing you and sometimes they're not. So it's a bit different to be fair. But that's how fans are really I should say. But there's more fans here there's a bigger fan base.

Interviewer: Does fan support and opinion play a role in your likelihood to play through an injury?

Depends really because they generally keep you going. Obviously when you're out there and fans are shouting your name and you're saying keep going. But it depends. If it's a little knock or something and you get hurt and get back up then yeah. But then if it's a concussion or something like a pulled muscle then you can't really carry on.

Interviewer: Does fan support and your opinion play a role in your likelihood to report a concussions?

No.

Interviewer: What do you think the fans views are on concussions?

I don't think, realistically the fans would really know. On the pitch they wouldn't really know a severe injury. If anything someone bangs their head they think, oh he just banged his head or like he didn't really hurt himself, didn't really look like he's done something.

But they can't really see the injury unless you are the person or you're up close down to the pitch to see.

Interviewer: Does your family play a role in your injury reporting?

Yeah more or less just to tell you if you're injured to say something really. If you can fight through it you can fight through it but then if you can't then don't do it.

Interviewer: Who are you most likely to report a concussion to?

The physio.

Interviewer: If you suspected a teammate of having a concussion would you report it?

It's up to the player to be fair. But I would probably ask him and if he doesn't really want me to then it depends what the situation is if you know what I mean. Normally, I don't know if people would tell you if anything was wrong with them or sometimes they don't really say nothing but they just go to the physio themselves.

Interviewer: Have you or do you know someone who's hidden a concussion from a physio or team doc in order to play?

No.

Interviewer: What do you think your teammates views are on concussions?

I hope they think it's high really so if it could really happen. So if it happens it could be little but it could be a big thing as well. So hopefully.

Interviewer: What do you think the views on concussions are from the physios?

Again highly. It's just another injury but still highly severe really. They should be looking or thinking about it as highly as any other injury really because this is your life really and your brain.

Interviewer: Do you know FIFA's concussion policy?

No

Interviewer: Where did you get your concussion knowledge from?

Generally knowledge, don't really know anything about it.

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Interviewer: Can you tell me about your typical day to day life as a professional footballer?

Basically just, obviously just get up in the morning. Go to training. Just basically do all the right things that you think would prevent you from getting injured. And then you make sure you're ready for a match day.

Interviewer: Do you get noticed outside of games?

Yeah I think in the local area you do. Obviously the closer you are to the club you play for if you live in the same city then yeah you do get noticed.

Interviewer: What is the general reaction or conversation you have with fans that notice you?

I think it just depends on the results of the weekend. If we've won then a lot of fans are particularly nice. And then if the results hasn't gone the way you can get a bit of various reactions. So yeah it just basically depends on what the game's been like.

Interviewer: How would you define a footballer's migraine?

I wouldn't have a clue.

Interviewer: What about just a migraine in general?

Well it's just a severe headache or, yeah I wouldn't, I don't really suffer from migraines so I wouldn't be too sure.

Interviewer: If you had one would you play through it?

Yeah definitely.

Interviewer: How would you define a concussion?

We'll I've only, from my own experience I've only ever had one. It was just, I felt a bit dizzy, a bit of sickness, and just didn't really feel like I was at it, and didn't really feel like I wanted to play. It actually happened in the game and once it did happen I tried to carry on and just felt, didn't feel how I did before. So I told the physio and he brought me off.

Interviewer: What's the difference between a migraine and a concussion?

I think a concussion is a bit more serious obviously with it being a blow you've taken. As I say I'm not really too sure on migraines but I'd suspect just the fact that it's been a blow to the head.

Interviewer: Would you play through a concussion?

Yeah I'd try. I'd at least get up and see if I could carry on and if I didn't feel completely right I'd tell them. But if I just felt minor symptoms then I'd carry on yeah.

Interviewer: Do you think there's any risks of playing through concussions?

I think there might be. I'm not too sure what the risks would be but if it was to happen to me personally then I would try and carry on.

Interviewer: Do you think you would know if you sustained a concussion on the pitch?

I think I would know just through the experience of the first time. And basically I only realized the first time because the physios told me that I needed to come off and that it was a bit serious. So yeah I think other than that I'd have just tried to carry on as long as possible.

Interviewer: So the time it happened, you would have carried on?

Well the time it happened I actually fractured my cheek bone and eye socket. So I think it was more of the fact that that happened that they brought me off. Otherwise I think I'd have tried to carry on anyway.

Interviewer: Compared to other injuries, how serious do you think concussions are?

I think anything to do with your head is a lot more serious. Obviously a lot of other injuries can be treated and made better but I think with it being your head you have to just be a little bit more sensible and just listen to the advice that you're given really.

Interviewer: Do you think concussions are a problem in football?

Yeah I'd think they are a problem because you ask any player that it happens to if they feel like they want to carry on, they'll do anything in their power to carry on. But at the same time you have to listen to what the professionals say and take their advice.

Interviewer: If you sustain a concussion when should you be removed from play?

To be honest I personally would prefer the physio to take over. I'd prefer them to make the decision for me because I know as an athlete if I know I can carry on I'd try my best whether I thought it'd cause damage in the long run. I think if I could try and carry on I would anyway. So I think the physios can make the decision for you.

Interviewer: But if you had to guess when?

Straight away.

Interviewer: How serious do symptoms have to be before a player should be removed from a game?

I think, I don't know I just think everyone's different. Like some people as soon as it happens could just come off or just tell the physio to take them off straight away or the manager. And then you could get other people that could try and carry on which I think I'd probably do. But obviously, I wouldn't want to damage myself but I think just in the heat of the game and everything going on you'd try and continue.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

I think either the physio or the club doctor. Obviously when it's a concussion a doctor comes on the pitch as well and I think primarily they should make the decision. As of, I don't think I would volunteer to come off I think I would just try to carry on.

Interviewer: How long should a person with a concussion be out for?

I think it just depends on the severity of the concussion. I think if it's just a mild one then I think a couple of days or even 24 hours before a training session that should be enough. But if it's more serious, I'd just take advice off a doctor and if he says I couldn't play then I'd just listen to him.

Interviewer: Who should decide when a player can return to play after a concussion?

Yeah same again I think it should just be, obviously you know how you feel you know better than anyone. But if you listen to the club doctor or the member of staff who knows what they're talking about. I think if they're telling you that you're not ready, then you're not ready, then I'd just go down that road.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah definitely I think, the bigger the game the more you want to be involved. If it's just a friendly game or it's not a major game, then I think you'd have more chance of players telling if they're carrying a problem. Myself personally if it was a big game I don't think there would be much chance of me telling them unless it was stopping me from playing completely.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

Yeah I think I've had a fair few injuries so I think sometimes when you're just carrying little injuries you don't want to say anything because then you're missing games again. But I think, personally I know my body better than anyone if I know I'm not right to play then I'd just say.

Interviewer: Because of the substitution rules and the 3 subs that you're allowed, are you more likely to play through injury knowing that your team might need the substitution later on?

Yeah I think it plays on your mind. But once again I think as a professional athlete I think you know your body and you know whether you can get through. I think if it happens early on in a game and you think you won't have a chance of getting through to it, you'd maybe go to half time and then tell the manager once you were off the pitch. But if it was late on in a game I think you'd just hang in there for as long as possible until either the end of the game or you couldn't play anymore.

Interviewer: What do you think the manager's opinions are on concussions?

I think they would be pretty similar. I think most managers that manage professionally have been players themselves and they understand that in the heat of the moment you don't want to come off. Yeah I think it'd be pretty similar to an outfield player because obviously we're playing for them and they're the manager. I think if the manager thought you could carry on he'd expect you. If the club doctor told the manager that he needed to come off I think he'd understand.

Interviewer: How does the opinion of the manager influence you reporting a possible injury?

Yeah I think obviously if you're a big part of the manager's plans and you're player for him then obviously you don't want to let anyone down but, from a personal point of view I'd just take my own opinion. If I knew I could play I would but if I thought I wouldn't be able to play the full 90 minutes I'd have no hesitation to tell him I wasn't fit enough.

Interviewer: Can you tell me a little about fan support surrounding the team?

Yeah I think it's, obviously in professional football there's a lot of opinions from fans and they are allowed to have their opinion they pay good money to watch the games. So depending on the results, they can be positive or you can get the complete opposite. Personally I'd just go on around after they've paid good money and they are supporting their football club and they are entitled to say whatever they say. Whether you agree or not, it's just part of being a professional footballer.

Interviewer: Does fan support and opinion play a role in your likelihood to play through injuries?

Yeah I think, obviously if it's an important game then obviously you know the fans. I think with football though you tend to know what the big games are. So personally in our situation we know when we have a big game and we know the games that the fans are going to be up for. They are like games that you want to be a part of for the atmosphere and the likelihood of wanting to get a good result. So the fans know that you've played in a good game. Yeah I think, depending on what game it is and the atmosphere and the tension and everything sort of surrounding the fans depends whether you think you can carry on or if you best tell the manager that you're injured.

Interviewer: Does that change if you have a concussion? Does fan support and opinion play a role in your likelihood to report a concussion?

No just from being an athlete I think I would just push my luck. I would see how far I could go and if I couldn't go any further then depending on what game it was, if I thought I was going to be causing myself some damage then I'd definitely just say.

Interviewer: What do you think the fans views are on concussions?

I think people that aren't involved in domestic sport and obviously know what they're talking about, I think obviously if you see someone take a knock to the head and if it doesn't look too serious, even though it could be, I don't think the fans will really understand. As I said they pay good money to go and to watch you and they expect you to give everything. I think if they see someone, unless they are obviously stretchered off, then they know it's serious, I think fans are a little bit dubious of why people come off. But as I said before I think it's part of the game and if you know that you're on it and you're not a part of sport or know what you're talking about then I think you have a different mindset to the people that are up there.

Interviewer: Does your family play a role in your injury reporting?

Yeah definitely. Obviously I had a serious injury last season where I fractured my skull so that was a major part for me. Obviously I've got a wife and two kids at home and there was times when I thought I could play, and obviously because of the severity of the injury, there was times where I told myself I was ok to play when really I weren't. But I really just wanted to get back playing and obviously then after I'd go home and speak to my wife and see the kids and I've thought, no it's not really worth it. The fact that to miss another couple of months just for the sake of my livelihood, it was well worth it.

Interviewer: Who are you most likely to report a concussion to?

I think that I'd go, obviously I'd tell the physios here and then I'd also tell the club doctor as well if I thought I was struggling. If I thought I was ok I don't think I'd report it.

Interviewer: If you suspected a teammate of having a concussion would you report it?

No I don't think I would. Obviously I'd see if they were ok and ask them if they were ok and I think if they told me they were ok I'd just presume they were ok. I think if anybody asked me and I told them I was ok then I would hope they'd believe me and know that I was ok. And I think I'd just have the respect to them if I asked them and they said they were fine I'd just let them get on with it.

Interviewer: Have you or do you know someone who had hidden a concussion from a physio or team doctor in order to play?

No not particularly no.

Interviewer: What do you think your teammates views are on concussions?

I think everyone's pretty similar. Everyone knows their own body and if they think they can play then I'm all for them playing and if they don't think to play, then I'm sure everyone would understand. I think there's a fine line between being ready to play and knowing you can play. Whether you think you can play but one of the medical staff is telling you you can't, then I think they'd just pretty similar to what I'd do. I'd just listen to them and if I thought I was ok then maybe I'd say something but if they've said no then that's fine for me.

Interviewer: What do you think the physios think about concussions?

I think they are a lot more worried about it then players are. Obviously we are there to play football and affect the game and obviously they are interested in making sure we are ok. Obviously if you're telling them you're ok then they'd respect what you're saying but at the end of the day they're the professionals and they hopefully they'd know the signs of someone who's struggling. If they saw then I'd be 100% sure that they'd pull you out. So I think that it's more worrying for them than it is for players.

Interviewer: Do you know FIFA's concussion policy?

No.

Interviewer: Where did you get your concussion knowledge from?

From just I think just the fact that I've had it once and then I've had a fractured skull, cheek bone, a couple of broken noses, so just from what people are telling me about what's happened to me.

Interviewer: Can you tell me a little bit about what happened with the one concussion that you had?

It was just, basically it was just a cross and I've gone to head the ball but as I was coming down, the other person was going up. So it smashed just there. And then I think I was unconscious for must have been 5 or 10 seconds until the physio got to me. Then after that I thought I was fine. Basically I tried to carry on. They'd seen that my cheek bone and eye socket was fractured and he told me to come off. And then I had surgery to fix it and I missed I think 12 weeks and then back to normal.

OLIVER

Interviewer: Can you tell me about your typical day to day life as a professional footballer?

Get up about half 8ish. Have some breakfast. Get into training about half 9 quarter to 10. Normally we do like a prehab sort of session working on strength and mobility of joints and stuff like that. Strength in the body et cetera. Then we go out to train about half 10, 11. Do obviously different training regimes, possession games, fitness. Then about half 12 or 1 you'd have some food. Depending on how much food you'll have will be, if you've got a second session in the afternoon. If not you'll probably have a good strong meal. If you've got a session it'll just be sandwiches and just something light. Get home in the afternoon and just chill out really. Just live a day to day life.

Interviewer: Do you get noticed outside of games?

You do yeah now and then you do yeah. People will recognize you in the town centers and that if you're out shopping or at restaurants and that.

Interviewer: What kind of interactions do you have when that happens?

Just like for me personally I've never really had like come into arguments or anything with fans. Normally fans just want to know how you're getting on and stuff like that. So I've not really had that sort of interaction where it's been bad. It's just like nice to speak to fans now and then and see how they feel about. Obviously you get opinionated fans so it's just one of those things you have to deal with.

Interviewer: How would you define a footballer's migraine?

Not too sure.

Interviewer: How about just a migraine in general?

Like soreness in the head probably a lot worse than a headache. Not really blurred vision but like in your sinuses and stuff like that just that sort of pain in there and obviously big headache and can't really function like you should be able to.

Interviewer: If you had one would you play through it?

I think I probably would yeah depending on how bad it was. Take some paracetamol and that et cetera but obviously you'd get checked out by a doctor before then.

Interviewer: How would you define a concussion?

Any incident where you've got hit in the head either by another player, or a fall, or a shot to the head.

Interviewer: How do you differentiate a migraine from a concussion?

I'd say a concussion is impact on the body and a migraine sort of something that just comes on.

Interviewer: If you had a concussion would you play through it?

No I don't think so. Depending on how bad it was. If it was just a slight one then I think I maybe would but if it was a big one then no because they can go on for quite a while concussions.

Interviewer: Do you think you would know on the pitch if you got a concussion?

No no I don't think so no because obviously you have a clash of heads and that now and then but obviously you just think oh that's just an impact it might just be a bit of pain a bit of bruising and that. But I don't think you can tell if you've got a concussion till you've been checked out.

Interviewer: Checked out by?

The physio.

Interviewer: Do you think there's any risks of playing through a concussion?

Yeah definitely. Obviously if you've got a concussion then there's obviously a lot of blood clots and that on the brain and stuff like that. There's big risks. You look at players that it's happened to before that have had head injuries and like struggled to play through and obviously bad things have happened to them so yeah it's quite a big risk playing football with a concussion.

Interviewer: Compared to other injuries how serious do you think concussions are?

I think it is serious but people don't really realize how bad it really is. Obviously you look at more football injuries like hamstring pulls and stuff like that. People pay more attention to that sort of stuff than concussions. If someone gets hit in the head it would just be like oh get on with it so it's just one of those things I think. But it is a big injury.

Interviewer: Do you think concussions are a problem in football?

It's like I say you see a lot of elbows and clash of heads and stuff like that but I don't think people take into, don't understand how bad it is that's why it don't really get recognized as much as other injuries.

Interviewer: If you sustain a concussion when should you be removed from play?

I'd say straight away.

Interviewer: How serious do symptoms have to be before a player should be removed?

I'd say, you'd have to be dizzy, blurred vision, just like if you can't perform what you normally perform at. If you don't feel you could do that then you should be removed.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

I'd probably say the player or the physio. I don't think the manager's got a say in that sort of situation.

Interviewer: How long should a person with a concussion be out for?

Depending on how bad it is I've seen players that have had concussion and been out for 2 to 3 weeks but ranging to 6 or 7. Depends how bad it is I think and that's how, obviously you just have to wait for it, it's not really one of those things you can really treat either. So it's just one of those things you just have to wait for it to clear.

Interviewer: Who should decide when a player can return to play after a concussion?

I'd probably say the player himself. When he knows he's right in his own head to get back into training then that's up to him.

Interviewer: Does match importance play a role in your willingness to report injuries?

I'd say so yeah. There's a lot of players that probably would play through little injuries like that so they can keep playing. If you go in and say I've got concussion then you're obviously not gonna get picked and you could lose your space in the team. So it is one of those things that you do or you would play through.

Interviewer: Have you ever not reported an injury for fear of letting your team or your teammates down?

No I don't think so no. Maybe once I rolled my ankle in a game and I played through it for the rest of the game because we were in a relegation battle. But apart from that, we got through and won that game and then I had a week's treatment and it was fine after that. So maybe that situation but apart from that no.

Interviewer: Because of the substitution rules and that you only get 3 subs are you more likely to play through injury knowing your team might need the substitution later on?

I don't think you really think about it on the pitch. Obviously a lot of game the 3 subs don't even get used depending on how the results going. So I don't think that really plays on your mind when you're out there. If you've got an injury I don't think you look at that and think oh it could be to bring attacking players on if you're losing. I think if you're ready to go off you'd go off.

Interviewer: What do you think the manager's opinions are on concussions?

I think it depends on how old school they are or how modern day. Obviously a lot of things happened to them as players and they didn't say nothing. It makes them realize more that these injuries do happen but I think it depends how old school, a lot of managers would tell you to get up and play through it I think.

Interviewer: You said a lot of managers will tell you to get up and play through it?

Yeah obviously depending on how badly hurt you are how badly concussed you are I think a lot of managers will tell you to get up yeah.

Interviewer: What do you differentiate as being badly concussed versus just mildly concussed?

I think sort of like badly concussed is either when you're knocked out or struggling, or like a bad collision. Obviously you just have little collisions that I think you'd be slightly concussed that you could, probably just have a sore head and you could play through.

Interviewer: Does the opinion of the manager influence you reporting possible injuries?

I'd probably say so a little bit yeah. Obviously they'd always advise you to report injuries. It's one of those things you can get fined for if you don't report and injury and you are injured. But a lot of players will play through things just to stay on the team. It's just one of those things, part of playing for the football team.

Interviewer: Can you tell me a little about the fans in general?

At this club? I've only been here sort of like two week so I don't really know I haven't played at the ground or anything. So I can't really tell. Obviously a lot of fans follow you on twitter and that and they seem really like a close knit group who have good support for (Club). So I suppose a good set of fans I think the boys have said.

Interviewer: Does fan support and opinion play a role in your willingness to report injuries?

I wouldn't say so no. I think an injury is down to you. I don't think the fans opinion will affect how you deal with it?

Interviewer: What about with a concussion?

No I don't think it would no.

Interviewer: What do you think the fans views are on concussions?

I think a lot of fans would tell you to get up yeah. If you was, especially if you were a better player on the team and the team needed you I think fans, obviously fans are always really opinionated and very die hard for their club so I think they would be like, oh get up and play. You should play through that. But they obviously don't know the risks of playing with that sort of injury.

Interviewer: Does your family play a role in your injury reporting?

No no no no no. I think they'd tell you to report the injury more than anything. They wouldn't advise you not to. If you had a bad injury they'd tell you to report it to the physios.

Interviewer: Who are you most likely to report a concussion to?

I'd probably say a physio.

Interviewer: If you suspected a teammate of having a concussion would you report it?

I don't think so no.

Interviewer: Why not?

I don't really think you could tell if someone had a concussion. They'd just have to know themselves and report themselves. You couldn't really say oh you're concussed and I think you should see a physio. I don't think it's one of those things you could actually do.

Interviewer: Have you or do you know someone who has hidden a concussion from a physio or team doc in order to play?

No I don't think so no.

Interviewer: What do you think your teammates views are on concussions?

I think a lot of them would be the same really. If it's a slight concussion then a lot of the boys will play through it and that but if it's a bad one then obviously you've got to report to the physio. Because obviously it's your brain it's the main part of your body apart from your heart so it's one of those things where it's a risky injury if you don't report it.

Interviewer: What do you think the physios views are on concussions?

I think they'd strongly advise you to report it and I don't think they'd let you play at all if you had a bad concussion.

Interviewer: Do you know FIFA's concussion policy?

Not got a clue.

Interviewer: Where did you get your concussion knowledge from?

Just in general I think. Just one of them things you generally pick up on when you watch a lot of boxing and stuff like that. You see a lot of concussed people and stuff like that really.

CARLOS

Interviewer: Can you tell me about your day to day life as a professional footballer?

In the morning, get up. I come to training. Have breakfast at training. Just play a bit of pool. Get ready, get changed, and then go out for training half 10. Train till 12ish. Have dinner quarter past 12. And then hang out here for about an hour just relax and then about half 1ish go to the gym. Do a bit of weights. And then get showered get changed and go home.

Interviewer: Do you get noticed outside of games?

Sometimes. Once you go like shopping. Not all the time obviously but yeah sometimes yeah.

Interviewer: What kind of interactions do you have with people?

You mean like with fans? Yeah I don't mind speaking to fans. I'll speak, I'll sign autographs if they want autographs. I'll do it, have pictures yeah I'm good with fans.

Interviewer: How would define a footballer's migraine?

I don't know.

Interviewer: If you had to explain to someone what it felt like or what you thought it felt like?

Just a bad headache really. Just a headache that's there for quite a while just pounding your head is.

Interviewer: If you had one would you play through it?

I've heard migraines quite bad when they get going. It'd be hard to play through because it'd be on your mind. It'd be putting you off the game so probably not no.

Interviewer: How would you define a concussion?

Just knock to the head probably. If you go up for a header and you get elbowed in the face or in the chin or whatever, probably that way really.

Interviewer: What the difference between a migraine and a concussion?

A migraine can just come on suddenly. Obviously like dehydrating or whatever I don't really know what occurs of migraines. But obviously concussions is you could knock to

the head. Obviously during football training and you could do other things. Obviously if you fall over at home and bang your head, concussion.

Interviewer: Would you play through a concussion?

No. No it's a big risk really. If I do get knocked out and obviously I get a concussion, I probably wouldn't want to come off but obviously I'd be advised to come off.

Interviewer: What kind of risks do you think there are associated with concussion?

Bleeding to the brain. Obviously if you carry on throughout the game you're still like pumping blood around your system and I tends to like, obviously that would make it worse.

Interviewer: If you got a concussion on the pitch do you think you would know it?

I don't think you would. I wouldn't know.

Interviewer: Compared to other injuries how serious do you think concussions are?

I think they could be quite serious. But they last for a few days or you feel it for a few days. But whatever injury you did it's still quite serious. Obviously it's not as serious as obviously like a leg break or if you break something.

Interviewer: Do you think concussions are a problem in football?

Yeah I would say they are yeah because you're always going up for tackles and going up for headers. In my opinion you're bound to get concussions now and again if you do go up for headers all the time. There's elbows flying about so yeah.

Interviewer: If you sustain a concussion when do you think you should be removed from play?

Straight away.

Interviewer: How serious do symptoms have to be before a player should be removed?

If you're dizzy. If you get up and you're like still swaying and obviously you can't really sand up straight walk straight, you can't really play with that so.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

That's what the physios there for just to give you advice and say should you play. I think you should carry on or obviously if it's serious then no. But obviously you've still got a

view on things. But obviously physios is near the best way to like see what they do it's their profession so.

Interviewer: How long should a person with a concussion be out for?

I've heard like, if you have a game on Saturday and you do it on Saturday, then on Tuesday you miss out. So probably just a few days. You miss the next game if it's a short space of time. Hopefully you should be alright.

Interviewer: So if you got it on Saturday, you would miss the game on Tuesday but you should be good for the next Saturday?

Yeah if you feel fine and everything goes well in training during the week and you feel up for it then yeah.

Interviewer: Who should decide when a player can return to play after a concussion?

The physio.

Interviewer: Does match importance have a role in your willingness to report injuries?

Yeah it does. Obviously it's high intensity playing games as compared to training. So you're bound to hopefully, but you might pull something but you're working more so yeah I'd say.

Interviewer: So if it was a big game are you less likely to report injuries because you want to play in the big game?

Yeah if it's not a serious injury then yeah big games you can get through them. But if it's a serious injury like a pulled hamstring or a groin obviously you know when to stop and when to carry on.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

No I don't think no.

Interviewer: Because of the substitution rules are you more likely to play through injury knowing your team might need the sub later on?

I bet you could yeah I reckon you can just stay in in through the game if you do it early on then if it's not too serious then you can carry on till half time or 60 minutes or so yeah.

Interviewer: What do you think the manager's opinions are on concussions?

Probably serious really, same as the physios views really. It is quite serious if you get a concussion because it can affect your game and other things.

Interviewer: How does the opinion of the manager influence you reporting injuries?

Yeah, he speaks quite lively if you're injured just say and if you're not you can just carry on. But he's a lot.

Interviewer: Can you tell me about fan support surrounding the team?

The fans? Yeah it's good. It's good to get them behind ya and we get big crowds is what we get. Yeah it's a good crowd.

Interviewer: Does fan support and opinion play a role in your likelihood to play through injury?

No I don't think so no.

Interviewer: What about your likelihood to play through a concussion?

No.

Interviewer: What do you think the fans views are on concussions?

A bit different really. They want you to play on carry on all the time. But obviously they don't know the seriousness of concussions like we do as players and staff and such.

Interviewer: Does your family play a role in your injury reporting?

Yeah obviously if you get injured you speak to them and they say just take it easy or whatever just not to rush things. Just take time out as much as you need.

Interviewer: Who are you most likely to report a concussion to?

Physios.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yeah probably I would say I don't know. Yeah. Obviously if they don't say don't report it or don't tell people I've got concussion or whatever It'd be hard to tell because you'd be letting them down as well.

Interviewer: So if they didn't say anything you would but if they asked you not to?

Yeah I probably just say you're struggling or whatever and then the physios would go to them and say you're struggling. But sometimes you don't really come of it.

Interviewer: Do you know anyone who's hidden a concussion from a physio or team doc in order to play?

No

Interviewer: What do you think your teammates views are on concussions?

It can be quite serious if you get a bad one or whatever you do. So yeah it is quite serious for the team.

Interviewer: What do you think the physios think about concussions?

Same really. Just you can get serious ones so obviously they know the best ways to sort it out and tell you about it.

Interviewer: Do you know FIFA's concussion policy?

No.

Interviewer: Where did you get your concussion knowledge from?

Just really heard about things and you hear about someone getting a concussion you read it up or you hear about it on the news and that so. No one's really told me a lot of things about concussion.

JADEN

Interviewer: Can you tell me about your typical day to day life as a professional footballer?

Get up in the morning, come to training, train. Have a can of Redbull and then go to the gym. Bench press yep.

Interviewer: And then in the afternoon?

Get home, probably chill out for a bit. Then go and walk the dog. Come back, have a bit of dinner and then chill out again.

Interviewer: Do you get noticed outside of games?

All the time yeah.

Interviewer: What kind of interactions do you have with people who notice you?

Just hello really. Ask how you're doing and how things are going and that.

Interviewer: So positive or negative?

I'd say quite positive.

Interviewer: How would you define a footballer's migraine?

A banging headache.

Interviewer: If one would you play through it?

If I had a migraine I'd play through it yeah.

Interviewer: How would you define a concussion?

When you've had a bang on the head a clash of heads or something like that and you feel dizzy, faint, blurred vision, a bit weak probably.

Interviewer: What's the difference between a migraine and a concussion?

A migraine would probably be more of just a headache where as a concussion would be more symptoms than just a headache I would have thought.

Interviewer: Would you play through a concussion?

I'd probably try to yeah.

Interviewer: At what point would you come off?
If I couldn't see what I was doing and it was affecting my performance in a big way.

Interviewer: Do you think there are risks of playing through a concussion?

I would have thought so yeah.

Interviewer: Do you think you would know if you got a concussion on the pitch?

Yeah I think you would yeah.

Interviewer: Compared to other injuries how serious do you think concussions are?

Depends on what injury it is. But if I got a concussion I wouldn't take it as serious as if I got a groin strain or a hamstring or something like that.

Interviewer: So less serious than groin and hamstring?

Probably yeah.

Interviewer: Do you think concussions are a problem in football?

No I think if you've got the right medical staff I think you're in good hands you're alright they'll look after you.

Interviewer: If you sustain a concussion when should you be removed from play?

Depends how you feel and what the physio thinks. If you've got a bad one I would have thought straight away. It depends on how bad it is. If it's minor and you think you can get through it then you'll probably be all right. If it's a major one then I would have thought straight away you'd come off.

Interviewer: How serious do symptoms have to be before a player should come off?

I would have thought if it's affecting your performance. If it starts affecting your performance in a big way then.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

I think both the physio and the player.

Interviewer: A combination of both?

Yeah probably both if the physio says you're struggling and the player, but sometimes the player's been concussed they don't really know what's going on does he. So I would have thought more the physio.

Interviewer: How long should a person with a concussion be out for?

I think it's 2 weeks isn't it. You miss 2 weeks, I think I'm not sure thought.

Interviewer: Who should decide when a player can return to play after a concussion?

Physio probably.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah in my experience it has yeah.

Interviewer: In what way?

I think you'd be more inclined to get fit for a Wembley final than a preseason friendly.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

It gets to a point where if it's bad enough I'll always say I'm struggling yeah.

Interviewer: So if it's bad enough, but if it's minor?

I'll just play through it yeah. Get a bit of treatment on it and that'll be it really just keep on playing.

Interviewer: Because of the substitution rules and that you only get 3 subs, are you more willing to play through injury knowing your team might need the sub later on?

Definitely yeah.

Interviewer: You think about that when you're on the pitch?

If I got injured and say all the subs had been made then yeah. Especially if it's toward the end of the game and you're struggling you'd get through it as long as it wasn't too serious.

Interviewer: What do you think the manager's opinions are on concussions?

Pretty similar to the physios. I think they are guided by the physios really. If the physios say they're struggling then the manager's know that you can't really mess around with head injuries.

Interviewer: How does the opinion of the manager influence you reporting injuries?

I think it does yeah. It probably does if they're always encouraging like the staff are here are to report injuries and that then players are more likely to do it.

Interviewer: But with other managers?

Some managers yeah if you go to them, yeah a lot of managers don't like you being injured so if you go to them and they've not really got time for people being injured then you'd probably just grind through it.

Interviewer: Can you tell me a little about the fans here?

The fans? They are the same as every other fans if you're doing well they like you if you're not they don't.

Interviewer: Does fan support and opinion play a role in your likelihood to play through injury?

Probably yeah. I would have thought it does yeah.

Interviewer: How do you feel it impacts whether or not you'll play through?

If you're doing well and if they're getting behind you then it seems to be not as severe as if you're not playing well and they're on your back. You feel things a bit more. I'd say if you're injury is bad it doesn't matter where you are or what's happening you can't get through it you can't get through it. But little minor niggles and twists and that I think being a professional footballer you have to try and get through them really or else you'd miss a lot of games. Of a season of 50 games I think you can probably count probably about 10 games where you're fully fit and you haven't got anything little wrong with you.

Interviewer: Does fan support and opinion play a role in you reporting a possible concussion?

No not really no. I wouldn't have thought so no no.

Interviewer: What do you think the fans views are on concussions?

Just play on with it I would have thought a lot of them. Just get on with it you've had a bang on the head you'll be all right.

Interviewer: Does your family play a role in your injury reporting?

Yeah they would do yeah.

Interviewer: How?

I think if you go home after training and tell them that you're struggling tell them that you're not fit then they'll tell you to go and see the physios in the morning and get it sorted get it checked out.

Interviewer: Who are you most likely to report a concussion to?

The physio.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Yes yeah I would yeah.

Interviewer: Why would you do that?

I don't think you can mess around with head injuries. IT's one that once you get a head injury you have to be careful with it.

Interviewer: Have you or do you know someone who's hidden a concussion from a physio or team doc in order to play?

No. Not that I can think of no.

Interviewer: What do you think your teammates views are on concussions?

Similar to mine really it's quite serious. If you get a bang on the head then you have to get it sorted out.

Interviewer: What do you think the physios views are on concussions?

Serious very serious I would have thought yeah.

Interviewer: Do you know FIFA's Concussion policy?

No.

Interviewer: Where did you get your concussion knowledge from?

Just from physios and from playing really from when I've had it what people have said to me.

Interviewer: Can you tell me about the two that you've had?

The first one was in training and it was a delayed concussion. I had a clash of heads and remember going blank. Got up and felt alright played on and when I got home that night I got sick and felt absolutely horrific. And the second one was just a clash of heads, or maybe it might have been a clash with an elbow and my vision went blurry and everything. I can't really remember too much about it.

WILL

Interviewer: Can you tell me about your day to day life as a professional footballer?

Basically just come in for 9:00. Well I've got a bad ankle so I do my ankle work. Get my back checked. Have some breakfast and then we obviously go out to train.

Interviewer: Ok and in the afternoon?

Depending on how I feel I might do some weights. If my hamstrings and that are tight I'll go and get a massage and then I'll have dinner and then leave.

Interviewer: Do you get noticed outside of games?

What like by?

Interviewer: Just out in the public.

Back home I do and around (city) that's about it. If I go to London or something like that they wouldn't have a clue who I am.

Interviewer: What kind of interactions do you have with people who notice you?

Obviously they just come and say hi how's the football going just to be polite and that's about it really.

Interviewer: How would you define a footballer's migraine?

Pain when looking into light. Just throbbing pain.

Interviewer: If you had one would you play through it?

It depends on how bad it was. If it was absolute agony I'd try and if it weren't getting any better or it was effecting my football and effecting the team then I'd have to say.

Interviewer: How would you define a concussion?

Feeling sick, getting knocked out, not really knowing what's going on and throbbing pain to the head.

Interviewer: What's the difference between a migraine and a concussion?

Obviously getting knocked out. It's an impact thing isn't it concussion?

Interviewer: What do you mean like impact thing?

Like when you smashes into. Like a collision yeah that sort of thing really.

Interviewer: Would you play through a concussion?

Me personally no because I've had it before and it didn't feel nice one bit and I couldn't have played through it either way. So no from past experience.

Interviewer: Do you think there's any risks of playing through concussions?

Yeah I do. I don't really know what but I would say so yes definitely.

Interviewer: Do you think you would know if you got a concussion on the pitch?

I think you would yeah but I reckon it's one of them trick questions where you could have it and you don't really know you have it until the end of the game.

Interviewer: What do you mean?

Like, you could just think oh I've just got a bad headache or something after I've collided with someone and then when you get back and see the doctor after the game it's like no you've got a slight concussion or something like that.

Interviewer: Compared to other injuries how serious do you think concussions are?

I'd say it's up there with very serious because obviously it could damage your brain. So I'd put it up there with a very serious injury.

Interviewer: Do you think concussions are a problem in football?

Not really I think if you get looked after right like two weeks off or whatever it is the timescale you should have off then I don't see a problem with that.

Interviewer: If you sustain a concussion when do you think you should be removed from play?

How long you should have off?

Interviewer: No when should you be removed after the injury?

As soon as they think that's what it is. I don't think you should mess about with that.

Interviewer: How serious do symptoms have to be before a player should be removed?

It depends what the player says. The player could just try and act tough and be like no I'm all right. Like so I think it's down to the player to say how he feels really and if they are serious enough then the physio should take you off.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

I'd say the player. Obviously it won't be like that but I would say the player because you know yourself if you're not right or not and if you don't feel right it's one of them where you're effecting your teammates, you're effecting yourself, and at the end of the day football is a team game. So I suggest I just personally think the player. If he doesn't think he's up to it then I'd say the player.

Interviewer: How long should a person with a concussion be out for?

I think it's 2 weeks isn't it. I think it is so I'm sticking with 2 weeks.

Interviewer: Who should decide when a player can return to play after having a concussion?

I think it's a mutual thing. Obviously you express how you feel to the physios and they say what you think and try to find a happy medium.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yes. If you're playing in the team regular you wanna keep playing. Saying for instance you don't and a guy comes in and does well, that plays on your mind a bit. You're like well I don't wanna give that guy a chance because if he takes it then I might be on the bench. So sometimes you get on with it even when you really shouldn't.

Interviewer: How does the big games, how does that play into big games?

Oh in big games you'll do anything to try and play in them. That's what you want to play in. That's what being a professional footballer is all about, playing in the big games.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

Yeah but also myself as well. I've wanted to play in it that much I've just got on with it. Like I've just taken pain killers or something like that. I think most people have. I'm not gonna lie about if I'm being honest I think most people have.

Interviewer: Because of the substitution rules and that you only get 3 subs in a match, are you more likely to play through injury knowing your team might need a sub later on?

Yeah. If you can't obviously, but if you feel like you can get through the 90 minutes you'll do whatever you can to get through it.

Interviewer: But does the substitution rule, do you ever think about that like oh we only have 2 subs left when you're on the pitch?

Yeah I think so but then again you're so much into the game or whatever. Sometimes it does sometimes it doesn't I'm not really sure.

Interviewer: What do you think the manager's opinions are on concussions?

I don't actually know. Because like if that's your star player, it could be like well we wanna make sure he's right for the season. Or it could be a massive game coming up and you want him to play in it. So I don't really know.

Interviewer: Depends on the season and where you're at?

Yeah.

Interviewer: Does the opinion of the manager influence you reporting injuries? Like does what he thinks influence how you report injuries?

No not really I think you should always be honest about your injuries because then you'll never really get down to it. Say for instance your ankle's killing you. You're like oh it's all right I'll be alright the physios will just think you're all right when really it's killing you. I think you should always be honest about your injuries.

Interviewer: Can you tell me about fan support surrounding the team?

Yeah the fans are great. Obviously we have 30,000 a week. You don't really get that in the Championship which is, like as footballer it's one of the best feelings coming out to a full stadium everyone cheering watching. The fans are good yeah.

Interviewer: Does fan support and opinion play a role in your likelihood to play through injuries?

Say for instance if you're injured or something but you go and put a big tackle in, the fans are roaring and cheering that'll give you a bit of a boost and you'll kind of forget about your injury.

Interviewer: So if they're behind you you'll play through things?

Yeah it'll help carry on yeah. I think if you can play through it even if the fans are rubbish or if they're good you'll play through it. I just think it helps you even more if they're behind you.

Interviewer: Does fan support and opinion play a role in your likelihood to report a concussion?

I'm one of the people where if I did think I had a concussion I'd say I think got a concussion. Because obviously personally I think it's quite serious. So I don't listen I'd always express that.

Interviewer: What do you think the fans views are on concussions?

Fans are a bit different aren't they? Like they just want their best players and who they think will win the game for them. So if you say concussion they'd be like oh he's just being a pussy. I think quite a few of them will anyway.

Interviewer: Does your family play a role in your injury reporting?

No I wouldn't really tell my family if I was injured. I'd just kind of keep it to myself.

Interviewer: Who are you most likely to report a concussion to?

The physio or the doctor.

Interviewer: If you suspected a teammate of having a concussion would you report it?

No. But I would advise him to if he feels like he has got one. I wouldn't interfere with that but I'd advise him to.

Interviewer: Have you or do you know someone who had hidden a concussion from a physio or team doc in order to play?

No.

Interviewer: What do you think your teammates views are on concussions?

I'd like to think they feel the same as I do. But we haven't, it's not something we really talk about to be honest with you so I don't really know but I'd like to think they'd do the same.

Interviewer: What do you think the physios think about concussions?

I think they think it's quite serious but I don't know I've only had it once years ago. I think it depends how bad you've got it. If you've got it really bad then they'll take it seriously. Obviously they always take it serious but if it's just a slight one, I reckon they might try and be like well you might be able to play, not straight away, but a bit sooner than you should be.

Interviewer: Do you know FIFA's concussion policy?

Nope.

Interviewer: Where did you get your concussion knowledge from?

Just from my own self really. I don't really know much about it.

Interviewer: Can you tell me about the concussion that you did get?

I just went to flick the ball on and got an elbow in the back of the head. A full smack and I got back up and didn't really know what was going on and fell back down again. I got stretchered off and woke up in the changing rooms. Physio was asking me what was up and it was the first minute of the game and I told him we were winning 4-1. It was nil nil and I had no idea what was going on. I had 2 weeks off because of it.

DANIEL

Interviewer: Can you tell me about your typical day to day life as a professional footballer?

Get up, drive into work. Get here, have some breakfast about quarter past 9. Just hang about do some stretches till about 10. Go outside half 10 till about 12 or quarter past 12. Have some food maybe one of the shakes and just chill out for a bit really. Then decide to make my way home about 2:00 3:00 in the afternoon on a typical day.

Interviewer: Do you get noticed outside of games?

As in?

Interviewer: By the public or the fans?

Occasionally yeah.

Interviewer: How do those interactions typically go?

Well to be honest with you when it happens yeah they are usually pretty positive when they speak to you face to face so yeah it's usually pretty nice things.

Interviewer: How would you define a footballer's migraine?

Typically as in a headache you mean?

Interviewer: Yeah or however you would define it.

Usually it's like a sharp pain in your head or something you can't get rid of really.

Interviewer: If you had one would you play through it?

Yeah.

Interviewer: How would you define a concussion?

Usually a bit more dizziness or a bit more drowsy.

Interviewer: How would you differentiate between a migraine and a concussion?

I think a headache can come on any time where as a concussion I think, I feel it comes more from a knock to the head more than just something that's come on over time.

Interviewer: If you had a concussion would you play through it?

Probably yeah.

Interviewer: Do you think you would know on the pitch if you got a concussion?

I think you might know there's something wrong but I wouldn't know if you'd describe it yourself as a concussion unless someone did that for you.

Interviewer: Do you think there's any risks of playing through a concussion?

Possibly yeah but I suppose there's risks playing through anything isn't there.

Interviewer: Compared to other injuries how serious do you think concussions are?

I think different ones can have different variables really. Same as if you play through on a sore leg I suppose you could break your leg. So I suppose it depends on how serious the concussion is really.

Interviewer: Do you think concussions are a problem in football?

I suppose a lot of injuries are so I wouldn't say it's any serious than anything or more serious than anything else really.

Interviewer: What injuries would you put on the same level?

Well all of them really because anything can occur at any time can't it really. So I wouldn't say it's a major one but I wouldn't say it's something you can forget about either.

Interviewer: If you sustain a concussion when do you think you should be removed from play?

When? After the game. I think if you can get through something then you can get through it can't you. Unless it comes to the stage where you think, I can't get through it anymore.

Interviewer: How serious do symptoms have to be before a player should be removed?

With concussion? Maybe blurred vision to the stage where you think you're going to faint or something.

Interviewer: So if you have blurry vision or you think you're going to pass out?

Yeah.

Interviewer: Who should decide if a player should be removed from a game for a concussion?

I suppose it depends on the individual really doesn't it. I myself want to play but some other people I think definitely want to be taken out themselves don't they.

Interviewer: So you think it's the player's decision?

Yeah.

Interviewer: How long should a person with a concussion be out for?

Until they stop feeling the effects I'd say so. So I don't know how long that would be.

Interviewer: Who should decide when a player can return to play after a concussion?

I'd say the player.

Interviewer: Does match importance play a role in your willingness to report injuries?

Yeah.

Interviewer: How?

If it's a big game you'd want to play in it sort of thing. If it's something you don't want to miss out on, I think you'd play things down more than if it wasn't such a big game.

Interviewer: Have you ever not reported an injury for fear of letting your team or teammates down?

Yeah.

Interviewer: Any reason why?

I think because sometimes you can get through it. Whereas I think if you start complaining about things it becomes more mental than actual physical.

Interviewer: Because of the substitution rules in that you only get 3 subs, are you more willing to play through injury knowing that your team might need a sub later on?

Yeah possibly yeah compared to if you had more subs yeah quite possibly yeah.

Interviewer: Is it something that goes through your head when you're on the pitch?

Not really no I think if you're quite a mentally tough person then you think if you can get through this for 10 minutes then it might wear off after that before you know it 20 minutes have passed or 30 minutes have passed and you're not feeling the effects anymore.

Interviewer: What do you think the manager's opinions are on concussions?

I suppose they'd take the advice of the physios really because manager's not the physio. So I'd say their opinion is that they might ask a player how they're feeling and then judge it on that and then ask the physio and have a completely different opinion. They might pull you out one way or the other or ask you to play on one way or the other.

Interviewer: How does the opinion of the manager influence you reporting injuries?

If the manager wants you to play through an injury then you try your best to play through because you know he wants you out on the pitch if he's asking you to. So I think if the manager's asking you can you play an extra 10 minutes you do your best because he's asking you to.

Interviewer: Can you tell me a little more just about the fans?

As in?

Interviewer: Just kind of what?

What it's like? Away from this area? Away from the training ground you mean? Everyone's usually all right. I've never had any trouble with anyone who's recognized me or wanted to be honorable. It's always been like a, can you sign this or and everyone used to really crowd around these places. I think if you give someone back like and help people and sign something then it goes a long way really.

Interviewer: Does fan support and opinion play a role in your likelihood to play through injuries?

Fans opinion? I think sometimes you want to stay on for the fans really because obviously they're paying their money week in and week out. So if they see you coming off every week with a sore toe or a bruise here and there then they'd think a bit less of you I'd imagine.

Interviewer: What about playing through a concussion?

I think the same thing really. Like obviously I think you know your body yourself if you feel all right if you've just got a headache then you can get through that. But obviously if it starts to get into like where to feel like you're getting into like blurred vision and that sort of stuff then I think it's more beneficial to say I need to come off.

Interviewer: What do you think the fans views are on concussions?

I suppose they don't know an awful lot about it if I'm being honest with you. I suppose they, if they see you go down with a knock to the head they'll probably just think you've got a bang on the head where obviously it could be a lot more serious, or it could just be a bang on the head. I'm not sure they have, maybe not a great depth of knowledge of the injury sort of thing especially compared to a broken leg or something.

Interviewer: Does your family play a role in your injury reporting?

No it's usually just my decision. If I feel like I can play through something then I will do.

Interviewer: Who are you most likely to report a concussion to?

The physio.

Interviewer: If you suspected a teammate of having a concussion would you report it?

Not unless he asked me to. If he didn't want somebody to know then I think it's their business to say. But obviously if you can see them feeling the effects then I think maybe it's time to step in and say you've got an injury.

Interviewer: Have you or do you know someone who's hidden a concussion from a physio or team doctor in order to play?

Not personally no not personally. It's nothing I've come across compared to a normal injury.

Interviewer: What do you think your teammates views are on concussions?

I suppose they just, I don't know. I honestly don't know to be honest with you. Maybe they don't see, I suppose based on that the fans they don't know an awful lot about it really. Like say if someone went down with a bang to the head I suppose that if you could they could just have a bang to the head on me. I don't think we know a great deal about it to declare someone concussed.

Interviewer: What do you think the physios think about concussions?

I suppose they'd take it a lot more serious because obviously they've been trained in that sort of area in that physics of it. So I suppose they are a bit more wary a bit more cautious than those of us who just want to play.

Interviewer: Do you know FIFA's concussion policy?

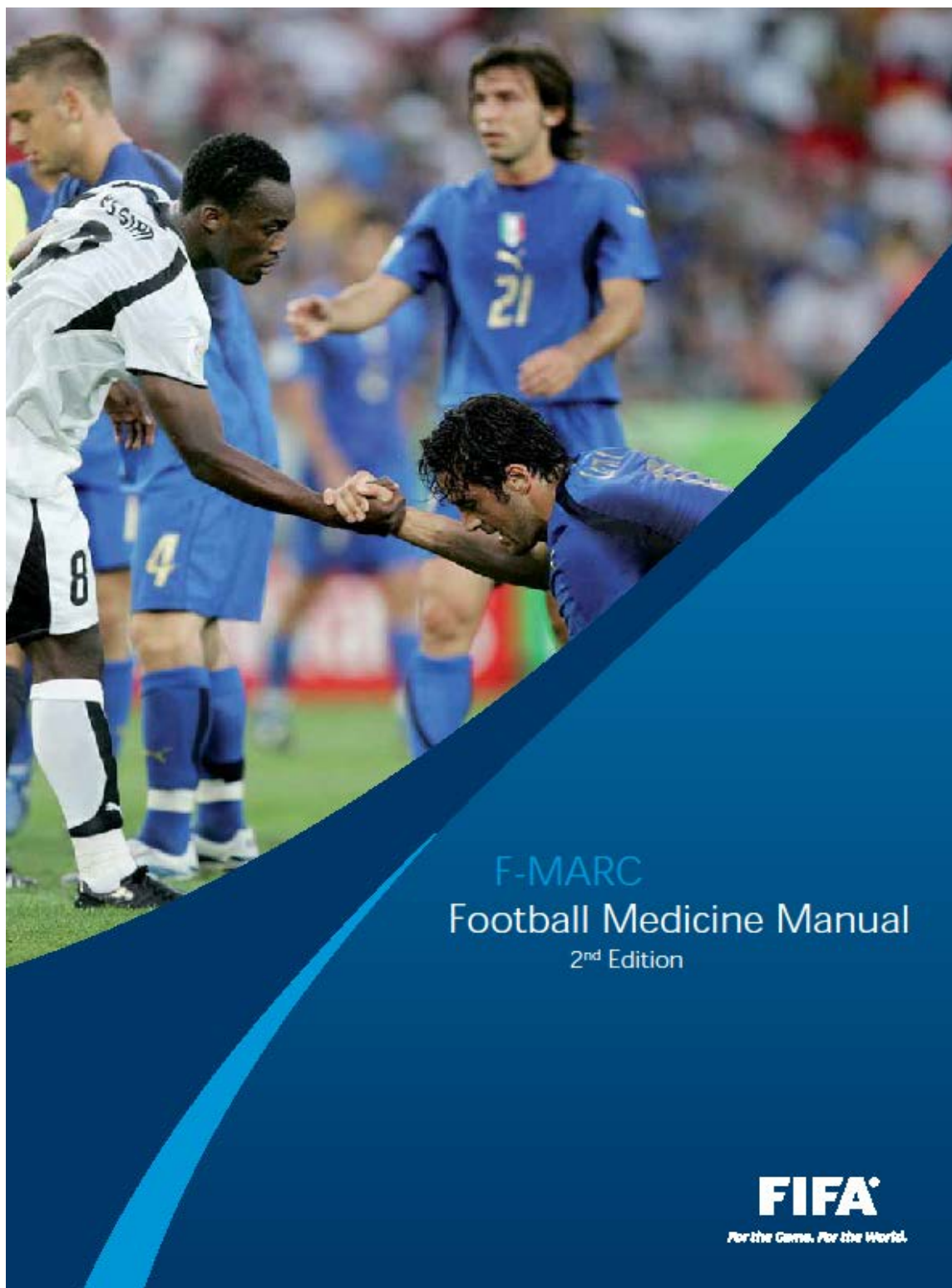
No.

Interviewer: Where did you get your concussion knowledge from?

Just from general life really so I don't know how true it is. It's not thing I've researched or read about.

APPENDIX J

FIFA MEDICAL MANUAL



F-MARC
Football Medicine Manual
2nd Edition

FIFA
For the Game. For the World.

3.6 Head and brain injuries

Concerns have been raised about potential brain damage due to repeated ball heading as well as head injuries that occur in football. Fortunately, brain injuries that result in structural damage are extremely rare and usually occur only after severe ground-to-head, head-to-head or elbow-to-head collisions in the facial or parietal region (Figure 3.6.1). Most head injuries are minor (e.g. brain concussion), but more severe injuries can occasionally occur (e.g. subdural haematoma or intracerebral haemorrhage).

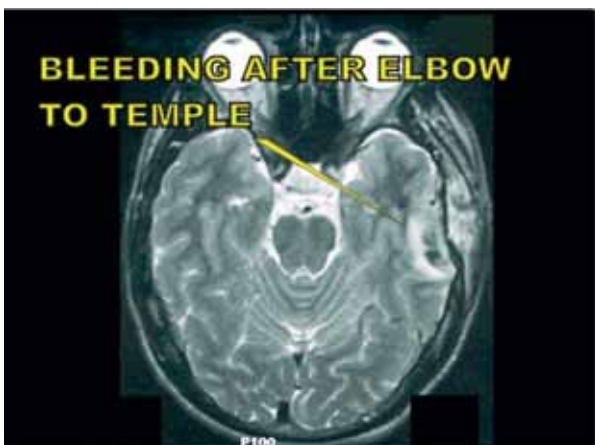


Figure 3.6.1 Intracerebral bleeding after direct elbow hit to the temporal region left in a young football player (courtesy of B. Mandelbaum, MD)

3.6.1 Incidence

There is little prospective scientific literature available concerning head injuries in football and F-MARC has relied mainly on descriptive surveys conducted at FIFA competitions, starting with the 1998 FIFA World Cup™ and including events for both male and female players as well as different age groups. A total of 13,992 playing hours in 424 matches from 14 competitions were taken into account. Head and neck injuries (165 in total) during matches accounted for approximately 14% of all injuries seen, but only as few as 23 concussions (2% of all injuries; 13.9% of all head and neck injuries; 1.6 per 1,000 playing hours) were noted. Concussions were due to contact with another player and not because of heading the ball. Comparing the head injury incidence from the FIFA competitions with previous F-MARC studies on amateur football players, the frequency of head injuries increases as the level of competition increases, with head injuries occurring up to four times more often in high-profile competitions (see Table 3.6.1.1).

	Tournament	Amateurs & professionals	Amateurs
Study group	424 matches	398 players	194 players
Skill-level	High	High-low	High-low
Age	>=U17	14-41 years	14-18 years
Injuries per 1,000 hours total	82	20	20
Concussion per 1,000 match hours	1.6	0.3	0.4
No. of concussions (with subs. absence)	23 (63%)	4 (0%)	2 (50%)

Table 3.6.1.1 Incidence of head injuries

Prospective video analysis of head injuries in the elite Norwegian *Tippeligaen* demonstrated an overall incidence of 1.7 per 1,000 player hours, with a concussion incidence of 0.5 per 1,000 player hours.

3.6.2 Causes of acute head injury – injury mechanism and risk factors

An assessment of tackle mechanisms has identified a deliberate or accidental clash of heads between players as having the highest probability of leading to an injury to either or both players compared with all other tackle mechanisms. The frequency of this type of tackle is relatively low compared with other tackle mechanisms during competition.

A clash of heads frequently occurred when players jumped to challenge for the ball in the penalty area during crosses or corners and in the centre of the pitch following clearances by goalkeepers or defenders. In the penalty area, a clash of heads was more likely to involve face-to-face contact whilst a midfield clash of heads was more likely to involve face-to-back-of-head contact. The second most common cause of head/neck injuries involved the use of an arm or hand by one player impacting another player's head.

In the Norwegian studies on head injury, the most common playing action accounting for injury was a heading duel (60% of injuries), with 41% of cases due to head contact with the elbow or hand and 32% due to head-to-head contact. The findings of this and similar studies led to recommendations from the FIFA Medical Committee and F-MARC to the International Football Association Board (IFAB) to ban deliberate elbow-to-head contact during heading duels. This rule change was instituted prior to the 2006 FIFA World Cup™ in Germany and resulted in a reduction in the incidence of concussion as compared to the previous FIFA World Cup™.

3.6.3 The potential for chronic traumatic brain injury

Epidemiological studies from sports other than football have suggested an association between repeated sports concussions during a career and later-life cognitive

impairment. Similarly, case reports have noted anecdotal cases where neuropathological evidence of chronic traumatic encephalopathy was observed in retired American football players. At this stage, there is no convincing evidence that such anecdotal observations are a consequence of either repeated concussion or sports participation. Physicians need to be mindful, however, of the potential for long-term problems in the management of all players.

The precise threshold at which brain injury occurs is not known, but in moderate to severe traumatic brain injury (TBI), marked neuropathological change occurs. Mild TBI, particularly the subset of concussive injury, is not associated with structural brain injury. It has been proposed that the effects of repeated mild brain injury may be cumulative, but severe methodological flaws make this literature inconclusive.

In addition, biochemical serum and cerebral spinal fluid markers of brain injury (including S-100B, neuron-specific enolase (NSE), myelin basic protein (MBP), GFAP, tau, etc.) have been proposed as means by which cellular damage may be detected if present. S-100B is found in high concentrations in astroglial and Schwann cells – the support cells of the central nervous system. If these cells are damaged, S-100B is released and leaks into the cerebrospinal fluid and across the blood-brain-barrier into the circulation. Whether high local extracellular concentrations of S-100B have detrimental effects such as the enhancement of apoptotic cell death is still under debate. Where radiological lesions are demonstrated on CT scanning, increased serum levels of the neuroprotein S-100B seem to be a reliable indicator of brain injury. However, in concussion and in controlled studies of football heading, levels of S-100B or other biomarkers do not reach levels seen in TBI.

3.6.4 Types of brain injury

In sports medicine, physicians recognise and manage a spectrum of traumatic brain injury, ranging from concussion through to structural brain injury. All persons involved in player care need to have a thorough understanding of first aid principles, particularly the early management of a concussed player as well as knowledge of the potential sequelae of the injury.

There are numerous ways of classifying traumatic head injury and numerous books and reviews have been published in this regard. Readers are directed to the IOC Sports Medicine Manual (2000) that summarises the information on severe sports-related brain injury and its management. A simple classification for the purposes of common injuries seen in football is as follows:

1. Structural (e.g. extra-dural haematoma)
2. Non-structural (e.g. concussion)

Concussion

The most common form of sports-related brain injury is concussion. Although this condition is a subset of mild traumatic brain injury, the terms should not be used interchangeably as they refer to different injury constructs.

Over the past decade, the Concussion in Sports Group (CISG) has held a series of international meetings and consensus conferences to help define this injury and determine best management practice. The section below is based on the current CISG consensus recommendations (McCrory et al 2009).

Definition of concussion

The CISG has developed the following definition of concussion:

“Concussion” is defined as a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces. Several common features that incorporate clinical, pathological and biomechanical injury constructs that may be used in defining the nature of a concussive head injury are set out below:

- Concussion may be caused by a direct blow to the head, face, neck, or elsewhere on the body with an “impulsive” force transmitted to the head.
- Concussion typically results in the rapid onset of short-lived impairment of neurological function that resolves spontaneously.
- Concussion may result in neuropathological changes but the acute clinical symptoms largely reflect a functional disturbance rather than structural injury.
- Concussion results in a graded set of clinical syndromes that may or may not involve loss of consciousness. Resolution of the clinical and cognitive symptoms typically follows a sequential course.
- No abnormality on standard structural neuroimaging studies is seen in concussion.

3.6.5 Concussion classification and grading

The CISG recognised the strengths and weaknesses of the numerous published concussion grading scales that attempt to characterise injury severity, but no single system was endorsed. It was the recommendation of the CISG that combined measures of recovery should be used to assess injury severity (and/or prognosis) that individually guide decisions on return to play.

In the absence of scientifically validated return to play guidelines, a clinical construct is recommended using an assessment of injury recovery and graded return to play. The protocol outlined below is adapted from the 2000 guidelines of the Canadian Academy of Sport Medicine (CASM). Sideline evaluation includes clinical evaluation of signs and symptoms, ideally using a standardised scale of post-concussion symptoms for comparison purposes and acute injury testing as described below under neuropsychological testing.

3.6.6 Symptoms and signs of acute concussion

The diagnosis of acute concussion usually involves the assessment of a range of domains including clinical symptoms, physical signs, behaviour, balance, sleep and cognition. Furthermore, a detailed concussion history is an important part of the evaluation both in the injured player and when conducting a pre-participation examination. An example of a detailed clinical assessment of concussion is outlined in the SCAT2 forms (Figures 3.6.11.1–3.6.11.4, page 202–205).

The suspected diagnosis of concussion can include one or more of the following clinical domains:

- Symptoms – somatic (e.g. headache), cognitive (e.g. feeling like in a fog) and/or emotional (e.g. lability)
- Physical signs (e.g. loss of consciousness, amnesia)
- Behavioural changes (e.g. irritability)
- Cognitive impairment (e.g. slowed reaction times)
- Sleep disturbance (e.g. drowsiness)

If any one or more of these components is present, concussion should be suspected and the appropriate management strategy instituted.

On-field or sideline evaluation of acute concussion

When a player shows ANY features of a concussion:

- The player should be medically evaluated on-site using standard emergency management principles and particular attention should be given to excluding a cervical spine injury.
- The appropriate disposition of the player must be determined by the treating healthcare provider in a timely manner. If no healthcare provider is available, the player should be safely removed from practice or play and urgent referral to a physician arranged.
- Once the first aid issues are addressed, an assessment of the concussive injury should be made using the SCAT2 or another similar tool.
- The player should not be left alone following the injury and serial monitoring for deterioration is essential over the initial few hours following injury.

Sufficient time for assessment and adequate facilities should be provided for appropriate medical assessment both on and off the field for all injured players. In football, this requires an off-field medical assessment without affecting the flow of the game or unduly penalising the injured player's team.

Sideline evaluation of cognitive function is an essential component in the assessment of this injury. Brief neuropsychological test batteries that assess attention and memory function have been shown to be practical and effective. Such tests include the Maddocks questions and the Standardized Assessment of Concussion (SAC). It is worth noting that standard orientation questions (e.g. time, place, person) have been shown to be unreliable in the sporting situation when compared with memory assessment. It is important to note that abbreviated testing paradigms are designed for rapid concussion screening on the sidelines and are not meant to replace comprehensive neuropsychological testing, which is sensitive to detect subtle deficits that may exist beyond the acute episode; nor should they be used as a stand-alone tool for the ongoing management of football concussions.

It should also be recognised that the appearance of symptoms might be delayed several hours following a concussive episode.

Evaluation in emergency room or office by medical personnel

A player with concussion may be evaluated in the emergency room or doctor's office as a point of first contact following injury or may have been referred from another care provider. In addition to the points outlined above, the key features of this exam should encompass:

- A medical assessment including a comprehensive history and a detailed neurological examination including a thorough assessment of mental status, cognitive functioning and gait and balance.
- A determination of the clinical status of the player including whether there has been improvement or deterioration since the time of injury. This may involve seeking additional information from parents, coaches, team-mates and eyewitnesses to the injury.
- A determination of the need for emergency neuroimaging in order to exclude a more severe brain injury involving a structural abnormality.

Most of, the above points are included in the SCAT2 assessment.

Concussion investigations

A range of additional investigations may be utilised to assist in the diagnosis and/or exclusion of injury. These include:

Neuroimaging

Conventional structural neuroimaging is typically normal in concussive injury. Given that caveat, brain CT scanning (or where available MR brain scanning) contributes little to concussion evaluation but should be employed whenever suspicion of an intra-cerebral structural lesion exists. Examples of such situations may include prolonged disturbance of conscious state, focal neurological deficit or worsening symptoms.

Newer structural MRI modalities including gradient echo, perfusion and diffusion imaging have greater sensitivity for structural abnormalities. However, the lack of published studies as well as absent pre-injury neuroimaging data at the present time limits the usefulness of this approach in clinical management. In addition, the predictive value of various MR abnormalities that may be incidentally discovered has not yet been established.

Objective balance assessment

Published studies, using both sophisticated force plate technology and less sophisticated clinical balance tests (e.g. Balance Error Scoring System (BESS)), have identified postural stability deficits lasting approximately 72 hours following sports-related concussion. It appears that postural stability testing provides a useful tool for objectively assessing motor functioning, and should be considered a reliable and valid addition to the assessment of players suffering from concussion, particularly where symptoms or signs indicate a balance component.

Neuropsychological assessment

The application of neuropsychological (NP) testing in concussion has been shown to be of clinical value and continues to contribute significant information in concussion evaluation. Although in most cases cognitive recovery largely overlaps with the time course of symptom recovery, it has been demonstrated that cognitive recovery may occasionally precede or more commonly follow clinical symptom resolution, suggesting that the assessment of cognitive function should be an important component in any return-to-play protocol. It must be emphasised, however, that NP assessment should not be the sole basis of management decisions, rather it should be seen as an aid to the clinical decision-making process in conjunction with a range of clinical domains and investigational results.

Neuropsychologists are in the best position to interpret NP tests by virtue of their background and training. However, there may be situations where neuropsychologists are not available and other medical professionals may perform or interpret NP screening tests. The ultimate return-to-play decision should remain a medical one in which a multidisciplinary approach, when possible, has been taken. In the absence of NP and other (e.g. formal balance assessment) testing, a more conservative return-to-play approach may be appropriate.

In the majority of cases, NP testing will be used to assist return-to-play decisions and will not be done until the patient is symptom free. There may be situations (e.g. child and adolescent players) where testing may be performed early whilst the player is still symptomatic to assist in determining management. This will normally be best determined in consultation with a trained neuropsychologist.

3.6.7 Concussion management

The cornerstone of concussion management is physical and cognitive rest until symptoms resolve and then a graded programme of exertion prior to medical clearance and return to play. The recovery and outcome of this injury may be modified by a number of factors that may require more sophisticated management strategies.

As described above, the majority of injuries will recover spontaneously over several days. In these situations, it is expected that a player will proceed progressively through a gradual return-to-play strategy. During this period of recovery following an injury, it is important to emphasise to the athlete that physical AND cognitive rest is required. Activities that require concentration and attention (e.g. scholastic work, videogames, text messaging, etc.) may exacerbate symptoms and possibly delay recovery. In such cases, apart from limiting relevant physical and cognitive activities (and other risk-taking opportunities for re-injury) while symptomatic, no further intervention is required during the period of recovery and the player typically resumes the game without further problem.

Graduated return-to-play protocol

Return-to-play (RTP) protocol after a concussion follows a gradual process as outlined in Table 3.6.7.1.

With this gradual progression, the player should continue to proceed to the next level if asymptomatic at the current level. Generally, each step should take 24 hours so that a player would take approximately one week to proceed through the full rehabilitation protocol once they are asymptomatic at rest and with provocative exercise. If any post-concussion symptoms occur while in the gradual programme, the player should drop back to the previous asymptomatic level and try to progress again after a further 24-hour period of rest has passed.

Psychological management and mental health issues

In addition, psychological approaches may have potential application in this injury, particularly with the modifiers listed below. Care givers are also encouraged to evaluate the concussed player for affective symptoms such as depression, as these symptoms may be common in concussed players.

3.6.8 The role of pharmacological therapy

Pharmacological therapy in sports concussion may be applied in two distinct situations. The first of these situations is the management of specific prolonged symptoms (e.g. sleep disturbance, anxiety, etc.). The second situation is where drug therapy is used to modify the underlying pathophysiology of the condition with the aim of shortening the duration of the concussion symptoms. In broad terms, this approach to management should only be considered by clinicians experienced in concussion management.

An important consideration in RTP is that concussed players should not only be symptom-free but also should not be taking any pharmacological agents/medications that may mask or modify the symptoms of concussion. Where antidepressant therapy may be commenced during the management of a concussion, the decision to return to play

while still on such medication must be considered carefully by the treating physician.

The role of pre-participation concussion evaluation

Recognising the importance of a concussion history, and appreciating the fact that many athletes will not recognise all the concussions they may have suffered in the past, a detailed concussion history is of value. Such a history may pre-identify players that fit into a high-risk category and provides an opportunity for the healthcare provider to educate the player about the significance of concussive injury. A structured concussion history should include specific questions as to previous symptoms of a concussion – not just the perceived number of past concussions. It is also worth noting that dependence upon the recall of concussive injuries by team-mates or coaches has been demonstrated to be unreliable. The clinical history should also include information about all previous head,

Rehabilitation stage	Functional exercise at each stage of rehabilitation	Objective of each stage
1. No activity	Complete physical and cognitive rest	Recovery
2. Light aerobic exercise	Walking, swimming or stationary cycling keeping intensity < 70% maximum heart rate (MHR). No resistance training.	Increase heart rate
3. Sport-specific exercise	Skating drills in ice hockey, running drills in football. No head impact activities.	Add movement
4. Non-contact training drills	Progression to more complex training drills, e.g. passing drills in football and ice hockey. May start progressive resistance training.	Exercise, coordination and cognitive load
5. Full-contact practice	Following medical clearance participate in normal training activities.	Restore confidence and assess functional skills by coaching staff
6. Return to play	Normal game play	

Table 3.6.7.1 Graduated return to play protocol

face or cervical spine injuries as these may also have clinical relevance. It is worth emphasising that in the context of maxillofacial and cervical spine injuries, co-existent concussive injuries may be missed unless specifically assessed. Questions pertaining to disproportionate impact versus symptom severity matching may alert the physician to a progressively increasing vulnerability to injury. As part of the clinical history it is advised that details regarding protective equipment employed at the time of injury be sought, both for recent and remote injuries. A comprehensive pre-participation concussion evaluation allows for modification and optimisation of protective behaviour and provides an opportunity for education.

Modifying factors in concussion management

A range of “modifying” factors may influence the investigation and management of concussion and, in some cases, may predict the potential for prolonged or persistent symptoms. These modifiers would also be important to

consider in a detailed concussion history and are outlined in Table 3.6.8.1.

In this context, there may be additional management considerations beyond simple RTP advice. There may be a more important role for additional investigations, including formal NP testing, balance assessment and neuroimaging. It is envisioned that players with such modifying features would be managed in a multidisciplinary manner coordinated by a physician with specific expertise in the management of concussive injury.

The role of female gender as a possible modifier in the management of concussion is not yet clear, but gender may be a risk factor for injury and/or influence injury severity.

The significance of loss of consciousness (LOC)

In the overall management of moderate to severe TBI, duration of LOC is an acknowledged predictor of outcome. Whilst published findings on concussion describe LOC

Factors	Modifier
Symptoms	Number
	Duration (> 10 days)
	Severity
Signs	Prolonged loss of consciousness (> 1 min.), amnesia
Sequelae	Concussive convulsions
Temporal	Frequency – repeated concussions over time
	Timing – injuries close together in time
	“Recency” – recent concussion or traumatic brain injury
Threshold	Repeated concussions occurring with progressively less impact force or slower recovery after each successive concussion
Age	Child and adolescent (< 18 years old)
Co- and pre-morbidities	Migraine, depression or other mental health disorders, attention deficit hyperactivity disorder (ADHD), learning disabilities (LD), sleep disorders
Medication	Psychoactive drugs, anticoagulants
Behaviour	Dangerous style of play
Sport	High-risk activity, contact and collision sport, high sporting level

Table 3.6.8.1 Concussion modifiers

associated with specific early cognitive deficits, it has not been noted as a measure of injury severity. Prolonged LOC (duration > 1 minute) would be considered a factor that may modify management.

The significance of amnesia and other symptoms

Published evidence suggests that the nature, burden and duration of the clinical post-concussive symptoms may be more important than the presence or duration of amnesia alone. Further, it must be noted that retrograde amnesia varies with the time of measurement post-injury and hence is poorly reflective of injury severity.

Motor and convulsive phenomena

A variety of immediate motor phenomena (e.g. tonic posturing) or convulsive movements may accompany a concussion. Although dramatic, these clinical features are generally benign and require no specific management beyond the standard treatment of the underlying concussive injury.

Depression

Mental health issues (such as depression) have been reported as a long-term consequence of TBI, including sports-related concussion. Neuroimaging studies using MRI suggest that a depressed mood following concussion may reflect an underlying pathophysiological abnormality consistent with a limbic-frontal model of depression.

3.6.9 Special populations

The child and adolescent player

The CISG agreed that the adult recommendations could be applied to children and adolescents down to the age of ten. Below that age, children report concussion symptoms different from adults and would require age-appropriate symptom checklists as a component of assessment. An additional consideration in assessing the child or adolescent player with a concussion is that in the clinical evaluation by the healthcare professional there may be the need to include both patient and parent input as well as teacher and school input when appropriate.

The decision to use NP testing is broadly the same as the adult assessment paradigm. However, timing of testing may differ in order to assist planning in school and home

management (and may be performed while the player is still symptomatic). If cognitive testing is performed, it must be developmentally sensitive until late teen years due to the ongoing cognitive maturation that occurs during this period which, in turn, makes the utility of comparison to either the person's own baseline performance or to population norms limited. In this age group, it is more important to consider the use of trained neuropsychologists to interpret assessment data, particularly in children with learning disorders and/or ADHD who may need more sophisticated assessment strategies.

The CISG strongly endorsed the view that children should not be returned to practice or play until clinically completely symptom-free, which may require a longer time frame than for adults. In addition, the concept of "cognitive rest" was highlighted with special reference to a child's need to limit exertion with activities of daily living and to limit scholastic and other cognitive stressors (e.g. text messaging, videogames, etc.) while symptomatic. School attendance and activities may also need to be modified to avoid provocation of symptoms.

Because of the different physiological response and longer recovery after concussion and specific risks (e.g. diffuse cerebral swelling) related to head impact during childhood and adolescence, a more conservative RTP approach is recommended. It is appropriate to extend the amount of time of asymptomatic rest and/or the length of the graded exertion in children and adolescents. It is not appropriate for a child or adolescent athlete with concussion to return to play on the same day as the injury, regardless of the level of athletic performance. Concussion modifiers apply even more to this population than to adults and may necessitate more cautious RTP advice.

Elite versus non-elite players

The CISG unanimously agreed that all players, regardless of level of participation, should be managed using the same treatment and RTP paradigm. A more useful construct was agreed whereby the available resources and expertise in concussion evaluation were of more importance in determining management than a separation between elite and non-elite player management. It is recommended that in all organised high-risk sports consideration be given to having this cognitive evaluation regardless of the age or level of performance.

3.6.10 Concussion prevention

Protective equipment – mouthguards and helmets

There is no good clinical evidence that currently available protective equipment will prevent concussion, although mouthguards have a definite role in preventing dental and oro-facial injury. Biomechanical studies have shown a reduction in impact forces to the brain with the use of headgear and helmets, but these findings have not been translated to show a reduction in the incidence of concussion. For skiing and snowboarding there are a number of studies to suggest that helmets provide protection against head and facial injury and hence should be recommended for participants in alpine sports. In specific sports such as cycling, motor and equestrian sports, protective helmets may prevent other forms of head injury (e.g. skull fracture) that are related to falling on hard road surfaces and these may be an important injury prevention issue for those sports.

Rule change

Consideration of rule changes to reduce the incidence or severity of head injuries may be appropriate where a clear-cut mechanism is implicated in a particular sport. In football, F-MARC research studies have demonstrated that upper limb to head contact in heading contests accounted for approximately 50% of concussions. It is important to note that rule enforcement may be a critical aspect of modifying injury risk in these settings and referees play an important role in this regard.

Risk compensation

An important consideration in the use of protective equipment is the concept of risk compensation. This is where the use of protective equipment results in behavioural change such as the adoption of more dangerous playing techniques, which can result in a paradoxical increase in injury rates. This may be a particular concern in child and adolescent players where head injury rates are often higher than in adult players.

Aggression versus violence in football

The competitive/aggressive nature of football-which makes it fun to play and watch-should not be discouraged.

However, addressing violence that may increase concussion risk is important. Fair play and respect should be supported as key elements of the game.

Knowledge transfer

As the ability to treat or reduce the effects of concussive injury after the event is minimal, education of players, colleagues and the general public is essential for progress in this field. Players, referees, administrators, parents, coaches and healthcare providers must be educated regarding the detection of concussion, its clinical features, assessment techniques and principles of safe return to play. Methods to improve education, including web-based resources, educational videos and international outreach programmes, are important in delivering the message. Fair play and respect for opponents are ethical values that should be encouraged in football. Similarly, coaches, parents and managers play an important part in ensuring these values are implemented on the field of play.

3.6.11 Sport Concussion Assessment Tool

The Sport Concussion Assessment Tool (SCAT) was developed as part of the Summary and Agreement Statement of the second conference on concussion in sports in Prague in 2004. This tool represents a standardised method of evaluating people after concussion in sport. This tool was renamed SCAT2 following the Zurich consensus meeting in 2008 and has two forms – a sideline assessment form and a more detailed medical evaluation form.

McCrary P, Meeuwisse W, Johnston K M, Dvorak J, Aubry M, Molloy M, and Cantu R

Consensus Statement on Concussion in Sport: the 3rd International - Conference on Concussion in Sport held in Zurich, November 2008. Br J Sports Med 2009;43 i76-i84

SCAT2

Sport Concussion Assessment Tool 2



Name

Sport/team

Date/time of injury

Date/time of assessment

Age Gender M F

Years of education completed

Examiner

What is the SCAT2?¹

This tool represents a standardised method of evaluating injured athletes for concussion and can be used in athletes aged 10 years and older. It supersedes the original SCAT published in 2005². This tool also enables the calculation of the Standardized Assessment of Concussion (SAC)³,⁴ score and the Maddocks questions⁵ for sideline concussion assessment.

Instructions for using the SCAT2

The SCAT2 is designed for the use of medical and health professionals. Pre-season baseline testing with the SCAT2 can be helpful for interpreting post-injury test scores. Words in italics throughout the SCAT2 are the instructions given to the athlete by the tester.

This tool may be freely copied for distribution to individuals, teams, groups and organisations.

What is a concussion?

A concussion is a disturbance in brain function caused by a direct or indirect force to the head. It results in a variety of non-specific symptoms (like those listed below) and often does not involve loss of consciousness. Concussion should be suspected in the presence of **any one or more** of the following:

- Symptoms (such as headache), or
- Physical signs (such as unsteadiness), or
- Impaired brain function (e.g. confusion) or
- Abnormal behaviour.

Any athlete with a suspected concussion should be REMOVED FROM PLAY, medically assessed, monitored for deterioration (i.e., should not be left alone) and should not drive a motor vehicle.

Symptom evaluation

How do you feel?

You should score yourself on the following symptoms, based on how you feel now.

	none	mild	moderate	severe			
Headache	0	1	2	3	4	5	6
"Pressure in head"	0	1	2	3	4	5	6
Neck pain	0	1	2	3	4	5	6
Nausea or vomiting	0	1	2	3	4	5	6
Dizziness	0	1	2	3	4	5	6
Blurred vision	0	1	2	3	4	5	6
Balance problems	0	1	2	3	4	5	6
Sensitivity to light	0	1	2	3	4	5	6
Sensitivity to noise	0	1	2	3	4	5	6
Feeling slowed down	0	1	2	3	4	5	6
Feeling like "in a fog"	0	1	2	3	4	5	6
"Don't feel right"	0	1	2	3	4	5	6
Difficulty concentrating	0	1	2	3	4	5	6
Difficulty remembering	0	1	2	3	4	5	6
Fatigue or low energy	0	1	2	3	4	5	6
Confusion	0	1	2	3	4	5	6
Drowsiness	0	1	2	3	4	5	6
Trouble falling asleep (if applicable)	0	1	2	3	4	5	6
More emotional	0	1	2	3	4	5	6
Irritability	0	1	2	3	4	5	6
Sadness	0	1	2	3	4	5	6
Nervous or anxious	0	1	2	3	4	5	6

Total number of symptoms (maximum possible 22)

Symptom severity score

(add all scores in table, maximum possible: 22 x 6 = 132)

Do the symptoms get worse with physical activity? Y N

Do the symptoms get worse with mental activity? Y N

Overall rating

If you know the athlete well prior to the injury, how different is the athlete acting compared to his/her usual self? Please circle one response.

no different very different unsure

Figure 3.6.11.1 SCAT2 form

Cognitive & physical evaluation

1 Symptom score (from page 1)
 22 minus number of symptoms of 22

2 Physical signs score

Was there loss of consciousness or unresponsiveness? Y N
 If yes, how long? _____ minutes
 Was there a balance problem/unsteadiness? Y N

Physical signs score (1 point for each negative response) of 2

3 Glasgow Coma Scale (GCS)

Best eye response (E)

No eye opening	1
Eye opening in response to pain	2
Eye opening to speech	3
Eyes opening spontaneously	4

Best verbal response (V)

No verbal response	1
Incomprehensible sounds	2
Inappropriate words	3
Confused	4
Oriented	5

Best motor response (M)

No motor response	1
Extension to pain	2
Abnormal flexion to pain	3
Flexion/ withdrawal to pain	4
Localises to pain	5
Obeys commands	6

Glasgow Coma score (E + V + M) of 15

GCS should be recorded for all athletes in case of subsequent deterioration.

4 Sideline assessment – maddocks score
"I am going to ask you a few questions, please listen carefully and give your best effort."

Modified Maddocks questions (1 point for each correct answer)

What venue are we at today?	0	1
Which half is it now?	0	1
Who scored last in this match?	0	1
What team did you play last week/game?	0	1
Did your team win the last game?	0	1

Maddocks score of 5

Maddocks score is validated for sideline diagnosis of concussion only and is not included in SCAT 2 summary score for serial testing.

5 Cognitive assessment
Standardised Assessment of Concussion (SAC)

Orientation (1 point for each correct answer)

What month is it?	0	1
What is the date today?	0	1
What is the day of the week?	0	1
What year is it?	0	1
What time is it right now? (within 1 hour)	0	1

Orientation score of 5

Immediate memory
"I am going to test your memory. I will read you a list of words and when I am done, repeat back as many words as you can remember, in any order."

Trials 2 & 3:
"I am going to repeat the same list again. Repeat back as many words as you can remember in any order, even if you said the word before."

Complete all three trials regardless of score on trial 1 & 2. Read the words at a rate of one per second. Score 1 pt for each correct response. Total score equals sum across all three trials. Do not inform the athlete that delayed recall will be tested.

List	Trial 1	Trial 2	Trial 3	Alternative word list			
elbow	0	1	0	1	candle	baby	finger
apple	0	1	0	1	paper	monkey	penny
carpet	0	1	0	1	sugar	perfume	blanket
saddle	0	1	0	1	sandwich	sunset	lemon
bubble	0	1	0	1	wagon	iron	insect
Total							

Immediate memory score of 15

Concentration
Digits backward:
"I am going to read you a string of numbers and when I am done, you repeat them back to me backwards, in reverse order of how I read them to you. For example, if I say 7-1-9, you would say 9-1-7."

If correct, go to next string length. If incorrect, read trial 2. One point possible for each string length. Stop after incorrect on both trials. The digits should be read at the rate of one per second.

	Alternative digit lists					
4-9-3	0	1	6-2-9	5-2-6	4-1-5	
3-8-1-4	0	1	3-2-7-9	1-7-9-5	4-9-6-8	
6-2-9-7-1	0	1	1-5-2-8-6	3-8-5-2-7	6-1-8-4-3	
7-1-8-4-6-2	0	1	5-3-9-1-4-8	8-3-1-9-6-4	7-2-4-8-5-6	

Months in reverse order:
"Now tell me the months of the year in reverse order. Start with the last month and go backward. So you'll say December, November ... Go ahead."

1 pt for entire sequence correct

Dec-Nov-Oct-Sept-Aug-Jul-Jun-May-Apr-Mar-Feb-Jan 0 1

Concentration score of 5

¹ This tool has been developed by a group of international experts at the 3rd International Consensus meeting on Concussion in Sport held in Zurich, Switzerland in November 2008. The full details of the conference outcomes and the authors of the tool are published in the British Journal of Sports Medicine, 2009, volume 43, supplement 1. The outcome paper will also be simultaneously co-published in the May 2009 issues of the Clinical Journal of Sports Medicine, Physical Medicine & Rehabilitation, Journal of Athletic Training, Journal of Clinical Neuroscience, Journal of Science & Medicine in Sport, Neurosurgery, Scandinavian Journal of Science & Medicine in Sport and the Journal of Clinical Sports Medicine.

² McCrory P et al. Summary and agreement statement of the 2nd International Conference on Concussion in Sport, Prague 2004. British Journal of Sports Medicine. 2005; 39: 196-204

³ McCrea M. Standardized mental status testing of acute concussion. Clinical Journal of Sports Medicine. 2001; 11: 176-181

⁴ McCrea M, Randolph C, Kelly J. Standardized Assessment of Concussion: Manual for administration, scoring and interpretation. Waukesha, Wisconsin, USA.

⁵ Maddocks, DL; Dicker, GD; Saling, MM. The assessment of orientation following concussion in athletes. Clin J Sport Med. 1995;5(1):32-3

⁶ Guskiewicz KM. Assessment of postural stability following sport-related concussion. Current Sports Medicine Reports. 2003; 2: 24-30

Figure 3.6.11.2 SCAT2 form

6 Balance examination

This balance testing is based on a modified version of the Balance Error Scoring System (BESS)⁶. A stopwatch or watch with a second hand is required for this testing.

Balance testing

"I am now going to test your balance. Please take your shoes off, roll up your pant legs above ankle (if applicable), and remove any ankle taping (if applicable). This test will consist of three twenty second tests with different stances."

(a) Double leg stance:

"The first stance is standing with your feet together, your hands on your hips and your eyes closed. You should try to maintain stability in that position for 20 seconds. I will be counting the number of times you move out of this position. I will start timing when you are set and have closed your eyes."

(b) Single leg stance:

"If you were to kick a ball, which foot would you use? [This will be the dominant foot.] Now stand on your non-dominant foot. The dominant leg should be held in approximately 30 degrees of hip flexion and 45 degrees of knee flexion. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes, return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."

(c) Tandem stance:

"Now stand heel-to-toe with your non-dominant foot at the back. Your weight should be evenly distributed across both feet. Again, you should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes, return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."

Balance testing – types of errors

1. Hands lifted off iliac crest
2. Opening eyes
3. Step, stumble, or fall
4. Moving hip into > 30 degrees abduction
5. Lifting forefoot or heel
6. Remaining out of test position > 5 sec.

Each of the 20-second trials is scored by counting the errors, or deviations from the proper stance, accumulated by the athlete. The examiner will begin counting errors only after the athlete has assumed the proper start position. **The modified BESS is calculated by adding one error point for each error during the three 20-second tests. The maximum total number of errors for any single condition is 10.** If an athlete commits multiple errors simultaneously, only one error is recorded but the athlete should quickly return to the testing position, and counting should resume once the subject is set. Subjects that are unable to maintain the testing procedure for a minimum of **five seconds** at the start are assigned the highest possible score, ten, for that testing condition.

Which foot was tested: Left Right
(i.e. which is the non-dominant foot)

Condition	Total errors
Double leg stance (feet together)	of 10
Single leg stance (non-dominant foot)	of 10
Tandem stance (non-dominant foot at back)	of 10
Balance examination score (30 minus total errors)	of 30

7 Coordination examination

Upper limb coordination

Finger-to-nose (FTN) task: "I am going to test your coordination now. Please sit comfortably on the chair with your eyes open and your arm (either right or left) outstretched (shoulder flexed to 90 degrees and elbow and fingers extended). When I give a start signal, I would like you to perform five successive finger to nose repetitions using your index finger to touch the tip of the nose as quickly and as accurately as possible."

Which arm was tested: Left Right

Scoring: 5 correct repetitions in < 4 seconds = 1

Note for testers: Athletes fail the test if they do not touch their nose, do not fully extend their elbow or do not perform five repetitions. Failure should be scored as 0.

Coordination score of 1

8 Cognitive assessment

Standardized Assessment of Concussion (SAC)

Delayed recall

"Do you remember that list of words I read a few times earlier? Tell me as many words from the list as you can remember in any order."

Circle each word correctly recalled. Total score equals number of words recalled.

List	Alternative word list		
elbow	candle	baby	finger
apple	paper	monkey	penny
carpet	sugar	perfume	blanket
saddle	sandwich	sunset	lemon
bubble	wagon	iron	insect

Delayed recall score of 5

Overall score

Test domain	Score
Symptom score	of 22
Physical signs score	of 2
Glasgow Coma score (E + V + M)	of 15
Balance examination score	of 30
Coordination score	of 1
Subtotal	of 70
Orientation score	of 5
Immediate memory score	of 5
Concentration score	of 15
Delayed recall score	of 5
SAC subtotal	of 30
SCAT2 total	of 100
Maddocks Score	of 5

Definitive normative data for a SCAT2 "cut-off" score is not available at this time and will be developed in prospective studies. The SAC score, which is embedded within the SCAT2, can be utilised separately in concussion management. The scoring system also takes on particular clinical significance during serial assessment where it can be used to document either a decline or an improvement in neurological functioning.

Scoring data from the SCAT2 or SAC should not be used as a stand-alone method to diagnose concussion, measure recovery or make decisions about an athlete's readiness to return to competition after concussion.

Figure 3.6.11.3 SCAT2 form

Athlete information

Any athlete suspected of having a concussion should be removed from play, and then seek medical evaluation.

Signs to watch for

Problems could arise over the first 24-48 hours. You should not be left alone and must go to a hospital at once if you:

- Have a headache that gets worse
- Are very drowsy or cannot be awakened (woken up)
- Cannot recognise people or places
- Have repeated vomiting
- Behave unusually or seem confused; are very irritable
- Have seizures (arms and legs jerk uncontrollably)
- Have weak or numb arms or legs
- Are unsteady on your feet; have slurred speech

Remember, it is better to be safe.

Consult your doctor after a suspected concussion.

Return to play

Athletes should not be returned to play the same day of injury.

When returning athletes to play, they should follow a gradual symptom-limited program, with stages of progression. For example:

1. Rest until asymptomatic (physical and mental rest)
2. Light aerobic exercise (e.g. stationary cycle)
3. Sport-specific exercise
4. Non-contact training drills (start light resistance training)
5. Full contact training after medical clearance
6. Return to competition (game play)

There should be approximately 24 hours (or longer) for each stage and the athlete should return to stage 1 if symptoms recur. Resistance training should only be added in the later stages.

Medical clearance should be given before return to play.

Tool	Test domain	Time	Score			
		Date tested				
		Days post injury				
SCAT2	Symptom score					
	Physical signs score					
	Glasgow Coma score (E + V + M)					
	Balance examination score					
	Coordination score					
SAC	Orientation score					
	Immediate memory score					
	Concentration score					
	Delayed recall score					
SAC Score						
Total	SCAT2					
Symptom severity score (max possible 132)						
Return to play			n Y n N	n Y n N	n Y n N	n Y n N

Additional comments

Concussion injury advice (to be given to concussed athlete)

This patient has received an injury to the head. A careful medical examination has been carried out and no sign of any serious complications has been found. It is expected that recovery will be rapid, but the patient will need monitoring for a further period by a responsible adult. Your treating physician will provide guidance as to this timeframe.

If you notice any change in behaviour, vomiting, dizziness, worsening headache, double vision or excessive drowsiness, please telephone the clinic or the nearest hospital emergency department immediately.

Other important points:

- Rest and avoid strenuous activity for at least 24 hours
- No alcohol
- No sleeping tablets
- Use paracetamol or codeine for headache. Do not use aspirin or anti-inflammatory medication
- Do not drive until medically cleared
- Do not train or play sport until medically cleared

Clinic phone number

Patient's name

Date/time of injury

Date/time of medical review

Treating physician

Contact details or stamp

Figure 3.6.11.4 SCAT2 form



Football Emergency Medicine Manual

3.1.3 Head injuries and concussion

The incidence of head injuries increases with age and the level of play. At elite level, injuries to the head occur about four times more often (14% of all injuries) than at amateur level. The vast majority of these injuries are minor, with structural brain damage being extremely rare. While the total frequency of head injuries is not substantially different in men as compared to women, injuries leading to concussion occur about two to three times more often in female players.

In football, studies have shown that more than half of head injuries occur in aerial duels (60%) primarily due to either upper limb (usually the elbow)-to-head contact or head-to-head contact. Fair play and respect for opponents are ethical values that must be encouraged, not only in players, but also in coaches, parents and managers. This will result in reducing concussion and head injuries in football. This educational approach to the prevention of head injuries is supported by enforcement of the Laws of the Game. Referees are supposed to sanction deliberate elbow-to-head action by a player with a red card, a rule that was introduced at the 2006 FIFA World Cup™ based on the findings of a study conducted by F-MARC.

Types of head injury

The most simple differentiation of head injuries is by distinguishing structural from non-structural injuries with reference to the brain tissue. In football, the most common head injury is soft-tissue contusion followed by lacerations.

In general, if there is a bleeding head wound, one should always suspect a possible underlying fracture.

In this situation, if controlling the bleeding with pressure



is attempted, avoid depressing any bone fragments by applying pressure to the outer edges of the bone. Otherwise one would apply direct digital pressure to curtail bleeding. Universal precautions should be always be observed with bleeding wounds and exposure to other bodily fluids. Lacerations should be cleaned, debrided of grass and dirt if necessary and sutured using sterile techniques.

A detailed neurological evaluation is necessary in all players with head injuries and it follows the approach to concussion outlined below with respect to who should be sent for further evaluation to the closest appropriate medical facility.

Concussion

Concussion can be defined as “a clinical syndrome characterised by immediate and post-traumatic impairment of neural function, such as alteration of consciousness and disturbance of vision” or as a “complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces” – both definitions stressing the traumatic cause as opposed to the lack of structural damage.

In football, it has been reported that the incidence of concussion is more than two times higher in female players as compared to male players.

Mechanism of injury

- Acceleration of brain within a closed space (skull) from sudden contact or motion causes compressive, tensile and shearing forces.
- These abnormal forces may result in an altered level of consciousness.
- Head injury must be considered in any player in whom contact results in confusion or disorientation.

Concussion has the following features:

- It is defined as a diffuse, reversible brain injury that occurs at the time of trauma.
- It is characterised by the rapid onset of a change in mental status, which may or may not include loss of consciousness (LoC).
- LoC usually resolves quickly, although it may extend for up to six hours in more severe cases.
- Typical signs are confusion and amnesia.
- Associated findings are headache, nausea, vomiting, dizziness and a lack of awareness of surroundings.
- Caused by inertial forces from the traumatic injury that lead to shear strain.

- Concussion results in increased energy demands on the brain and transient diffuse cerebral dysfunction, which involves the reticular formation in the brain stem.
- One of the post-concussion dangers repeatedly described is second-impact syndrome. This condition seems to occur very rarely when a player who has not fully recovered from a previous concussive episode or head injury suffers another incidental or relatively minor head injury. Some authors prefer the term “diffuse cerebral swelling” and object to the theory of the first event. Fatal diffuse cerebral swelling may even occur without an obvious history of a concussive episode, and clinicians should have a high level of suspicion. This is observed primarily among younger players below the age of 21. One theory is that repetitive head trauma can result in acute severe brain swelling in the absence of an intracranial mass lesion and can lead to death. A common story is that of an adolescent football player who sustains a second head injury before symptoms of the first have cleared. The second injury may appear mild, or may not even be reported.

No matter what theory is believed, concussion management has to focus on not only the current concussive episode and its immediate management, but also on an evaluation of any previous concussive episode as rapid neurological deterioration of the player, and even death, may occur. Therefore, the attending team or event physician or sideline medical personnel must explicitly enquire about any previous concussive episode that a concussed player has been exposed to and then manage it accordingly with appropriate advice on symptoms and the signs to look out for, and to arrange for medical follow-up if necessary.

Another potentially life-threatening injury that may occur concurrently with concussion is the possibility of an acute cervical spine injury due to the common mechanism of injury. As mentioned above, collision injuries may result in lacerations and underlying skull fractures, which must be assessed and managed. Additionally, a sudden deceleration of the brain on impact may disrupt cerebral blood vessels resulting in life-threatening intracranial bleeding. Rapid on-field evaluation and appropriate stabilisation must be performed to prevent any further compromise to the injured player.

Signs and symptoms

Diagnosis of acute concussion will normally require the assessment of a number of parameters including clinical

symptoms, physical signs, behaviour, balance and cognition (Table 3.1.3.1).

As already mentioned, a detailed concussion history is an important part of the evaluation, both in the pre-participation examination and in the injured player. A suspected diagnosis of acute concussion can include one or more of the following:

- Somatic: headache
- Cognitive: feeling like being in fog
- Emotional symptoms: lability
- Physical signs: loss of consciousness, amnesia
- Behavioural changes: irritability
- Cognitive impairment: slowed reaction times

If one or more of these symptoms is present, concussion should be diagnosed and an appropriate management strategy instituted. Several basic principles guide the medical team through this process.

SYMPTOMS OF CONCUSSION

- Loss of consciousness
- Severe headache
- Amnesia
- Seeing stars or spots
- Dizziness
- Weakness
- Double vision
- Nausea/vomiting

SIGNS OF CONCUSSION

1. Glasgow Coma Scale
 2. Unequal pupil size
 3. Paralysis or muscle weakness
 4. Muscle extremity power
 5. Mental function
 6. Eye movement, pupil size
 7. Neck pain and stiffness
 8. Assess for fractures, dislocations, bleeding
 9. Balance deficiency – Rhomberg test
 10. Cerebellar dysfunction – finger to nose test
 11. Reflex tests – Babinski, deep tendons
 12. Cerebrospinal fluid in external ear canal or nostrils
- 1-8 may be conducted on the field.
 9-10 may be done on the field/at field-side after removing the player.
 11-12 may be reassessed at field-side.

Table 3.1.3.1: Symptoms and signs of concussion

Role of the event physician

Pre-injury planning

- Appoint a team leader.
- Acquire appropriate equipment for stabilisation.
- Establish lines of communication to emergency medical services (EMS).

Field-side management

I. Unconscious players

- The team leader should proceed to quickly assess airway, breathing, circulation and deformity (level of consciousness – ABCD).
- Unless there is a threat to the airway, breathing or circulation, the player should be left in the position in which he is found.
- If the player is unconscious and there is a risk of vomiting, e.g. after having had fluids or having eaten, it may be necessary to logroll the player onto his side in order to maintain and protect the airway. When this is performed, always protect the cervical spine simultaneously with a dedicated healthcare provider controlling the head and all movements (see Figures 3.1.4.2 – 3.1.4.4).
- The injured player is then placed onto a long board spinal immobilisation device using either a commercial spinal board or a scoop stretcher. Players lying in the supine position are lifted as a single unit by the medical team, allowing the board to be placed underneath and then slowly lowering the injured player onto it. If a scoop stretcher is used, the player does not need to be lifted or logrolled but “scooped” onto the stretcher. Players lying in the prone position are logrolled onto the spinal board into a supine position.
- If logrolling is necessary, make use of at least three other trained healthcare providers with another, the leader, providing constant control and in-line stabilisation to the head to avoid any unnecessary neck extension, flexion or lateral rotation.
- Once placed onto the relevant immobilisation board, the injured player is then secured with appropriate strapping to the board for safe transport including application of head blocks and a semi-rigid cervical collar.
- Stabilise the head and neck immediately.
- Neurological assessment includes:
 - checking the pupils for symmetry, size and reaction to light;
 - motor testing being evaluated by having the player move each limb;
 - speech being assessed by asking the player his name.

After the player has been removed from the pitch, reassess using the ABCD principles:

la. If consciousness is not regained:

- Refer to hospital immediately (see Table 3.1.3.2).
- The player should not be left alone and serial monitoring for deterioration is essential over the initial few minutes following injury including during transport to a hospital, if required.

lb. If consciousness is regained:

- Only once all basic emergency medical issues have been appropriately and urgently managed should an assessment of the concussive injury be made using either the Pocket SCAT2 or another similar examination tool (Pocket SCAT, Figure 3.1.3.1).

Urgent referral to hospital

Any player who has or develops the following:

1. A fractured skull.
2. Deterioration in conscious state following injury.
3. Focal neurological signs.
4. Confusion or impairment of consciousness for more than 30 minutes.
5. Loss of consciousness for more than five minutes.
6. Persistent vomiting or increasing headache post-injury.
7. Any convulsive movements with neurological signs.
8. More than one episode of concussive injury in a match or training session.
9. Children below the age of ten with head injuries.
10. High-risk patients, e.g. haemophilia, anticoagulant use.
11. Inadequate post-injury supervision.

Table 3.1.3.2 Indications for urgent referral to hospital for assessment, special investigation and management

II. Conscious players

If the concussed player is conscious, use the Pocket SCAT 2 or another similar examination tool (Pocket SCAT, Figure 3.1.3.1) to assess the player's immediate cognitive function.

Pocket SCAT2



FIFA®



Concussion should be suspected in the presence of **any one or more** of the following: symptoms (such as headache), or physical signs (such as unsteadiness), or impaired brain function (e.g. confusion) or abnormal behaviour.

1. Symptoms

Presence of any of the following signs & symptoms may suggest a concussion.

- Loss of consciousness
- Seizure or convulsion
- Amnesia
- Headache
- "Pressure in head"
- Neck Pain
- Nausea or vomiting
- Dizziness
- Blurred vision
- Balance problems
- Sensitivity to light
- Sensitivity to noise
- Feeling slowed down
- Feeling like "in a fog"
- "Don't feel right"
- Difficulty concentrating
- Difficulty remembering
- Fatigue or low energy
- Confusion
- Drowsiness
- More emotional
- Irritability
- Sadness
- Nervous or anxious

2. Memory function

Failure to answer all questions correctly may suggest a concussion.

“At what venue are we at today?”

“Which half is it now?”

“Who scored last in this game?”

“What team did you play last week / game?”

“Did your team win the last game?”

3. Balance testing

Instructions for tandem stance

*“Now stand heel-to-toe with your **non-dominant** foot in back. Your weight should be evenly distributed across both feet. You should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes.”*

Observe the athlete for 20 seconds. If they make more than 5 errors (such as lift their hands off their hips; open their eyes; lift their forefoot or heel; step, stumble, or fall; or remain out of the start position for more than 5 seconds) then this may suggest a concussion.

Any athlete with a suspected concussion should be IMMEDIATELY REMOVED FROM PLAY, urgently assessed medically, should not be left alone and should not drive a motor vehicle.

Based on the results of your assessment:**IIa. If the player is confused without amnesia and no loss of consciousness**

- Remove the player from the pitch.
- Allow up to 20 minutes of observation for evaluation before allowing the player to return to play if appropriate.

IIb. If there is confusion with amnesia but no loss of consciousness

- Remove the player from the pitch, and do not allow him to return to play.

Return to play

Any player with diagnosed concussion or another head injury should not be allowed to return to play on the day of the injury. If the player is not referred to hospital, or if the player is discharged from the hospital, he is given an information sheet (Table 3.1.3.4) containing symptoms that the player or player supervisor should monitor and, if necessary, summon medical assistance if or when any symptoms appear (e.g. late-onset symptoms are indicative of subdural haematomas or other intra-cranial bleeding).

It is essential for all return-to-play protocols that the medical team confirms the following criteria, carefully considering the pre-injury status of the player:

- The status of anatomical and functional healing
- The status of recovery from acute illness and associated sequelae
- The status of chronic injury or illness
- That the player poses no undue risk to the safety of other participants
- Restoration of football-specific skills
- Psycho-social readiness

Same day return to play

Only in certain situations, and in adult players only, should a player be allowed to return to play on the same day. The attending physician should be experienced enough in the first instance to make this clinical decision. The criteria would be the same as for other return-to-play states, and it implies that there are no clinical and cognitive compromises.

Patient discharge information**Please note:****A NORMAL X-RAY or head scan DOES NOT EXCLUDE CONCUSSION.**

You may be sent home after being assessed. In this case:

- Always make sure that you are in the presence of a responsible adult for 48 hours.
- Record and monitor any symptoms of concussion including headache, nausea, dizziness, fatigue, sleep disturbances, memory lapses, mood swings, poor concentration or any other feeling that concerns you.
- Complete rest and sleep will help recovery.

DO NOT:

- Drive a motor vehicle or motor cycle if symptoms occur
- Consume any alcohol
- Take excessive amounts of painkillers (follow your doctor's orders)
- Place yourself in an environment of loud noise and excessive light
- Study
- Work on a computer
- Exercise until re-evaluation by a doctor

DO:

Either you or a family member/friend who witnesses any of the symptoms below should contact the nearest emergency department immediately if:

- Any of the symptoms intensify or get worse
- A headache becomes severe or does not respond to mild analgesics, e.g. paracetamol
- You have a seizure (fit)
- You experience excessive irritability
- You experience visual disturbances
- You experience balance problems
- You or anyone else is concerned about your condition

Decisions regarding returning to football will be made by taking into consideration your individual circumstances including medical history, previous head injuries and current symptoms.

You must receive clearance from a doctor before returning to football!

Summary

Head injuries and concussion

The most simple differentiation of head injuries is by distinguishing structural from non-structural injuries with reference to the brain tissue. In general, if there is a bleeding head wound, one should always suspect a possible underlying fracture. A neurological evaluation at the sideline using one of the established tools (e.g. SCAT2) is necessary in all players with head injuries and concussion with respect to who should be sent for further evaluation to the closest appropriate medical facility. Field-side management differs in conscious and unconscious players. Return to play on the same day is generally not encouraged.



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