EDITORIAL

SHARED DECISION MAKING IN SPORTS CONCUSSION: Rise to the "OCAsion" to take the heat out of on-field decision making

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The issue

The 2018 FIFA World Cup again emphasised the challenge of on-field management of a concussed athlete; there was no shortage of disagreement among expert commentators and claims of questionable medical decisions[1].

Team physicians often insist on having the sole decision-making responsibility in removing a player with suspected sport-related concussion from play. This is frequently met with resistance from other concerned parties, including the coach and the athlete[2]. Good progress has been made to address this problem with the introduction of the SCAT protocol[3], legislation, policies, and education across sports , leagues and countries, such as World Rugby and sport in general in the USA. However, in our experience, even with policies in place, compliance remains poor in several sports and many parts of the world, especially in non-professional sport. This became evident when two experienced clinician authors (LH and JP) were tasked to implement a sport related concussion programme in soccer (football) leagues in Qatar. Despite FIFA guidelines on concussion care, low levels of knowledge and negative attitudes were encountered from at least some people at management, player and medical levels. It became clear that engagement and education at several levels of the sport would be required for successful implementation of effective concussion care.

We explore four factors that contribute to this complex issue and propose a three-part approach to the removal of players with suspected concussion from the field of play to improve this aspect of concussion care.

Ethics and shared decision making in Sport and Exercise Medicine

Shared decision making is usually done by a team consisting of the patient as central figure, the medical care provider, and significant others. In Sport and Exercise Medicine (SEM), the team typically consists of the patient, the sports medicine physician and/or physiotherapist, the coach/manager[4], with possible input from the agent. In youth sport, parental input is also relevant. Until now, this process only required the engagement of one shared decision making team. In this case, we propose shared decision making processes at more than one level.

What makes decision making in concussion different?

Lack of visible signs

Symptoms and signs of sport-related concussion are often subtle and transient, and compromised by a lack of direct observation of the primary insult.

Lack of diagnostic criteria

There is no consensus on definitive diagnostic criteria for concussion. The guidelines to navigate diagnosis and removal from play[5] propose a very low threshold for removal from play, and are challenging to apply in the heat of the moment.

Compromised decision making ability

The key ethical principle of patient autonomy, in other clinical situations dealt with in a shared decision making process[6], is compromised, as shared decision making requires that the patient has full mental capacity[7]. In most episodes of concussion, a player's cognitive ability is compromised, with possibly reduced decision making ability. Team physicians have a responsibility to protect transiently incapacitated athletes from harm. In most legal jurisdictions there is a presumption in favour of a person's mental ability to make decisions, (e.g. English Mental Capacity Act 2005). However, decision making ability can neither be assumed, nor assessed at field side after a head injury. In the interest of patient safety, and also to protect the athlete from external biases which can lead to decisions against the athlete's own better judgement, compromised decision making ability should be assumed and pre-empted.

Conflict of interest, situational pressure, and bias

In dealing with sport-related concussion, diverse interests among the members of the shared decision making team is particularly difficult to navigate. It is easy for a manager with a "win-at-all-cost" mind-set to overlook the significance of the injury of a seemingly "unaffected" concussed player. The scenario is often complicated by vested interests of external parties such

as team owners and sponsors, as well as being in the public eye, where continued participation despite an injury is often regarded as heroic. Athletes, inherently biased by team loyalty or fear of losing face or their position in the team[8], invariably wish to continue playing, despite feeling unwell and with a compromised ability to perform. In addition to the potential lack of consensus in the shared decision making team, the decision may be complicated further by a team physician's own conflict of interest: patient care versus loyalty to the employer ("the team")[9].

Proposing a three-step solution

Shared decision making is a proven method to navigate medical decisions at individual doctor-patient level. We propose a customised shared decision making solution to address the common field side disagreements on concussed players. This plan involves clinicians' use of Elwyn's three talk model for shared decision making at individual level[6], but also at two extra levels of engagement.

The idea is to start with the highest decision making body which is ready to embrace concussion care in a sport organisation - Level one of engagement (organisational level). This may be at international level (as in the case of World Rugby and the NFL), at national, regional, competition, or even club level. The purpose of this level of engagement is to ensure that a concussion policy is adopted, implemented and overseen. Level two involves engaging with team management (operational or team level), where the policy should be understood, agreed to and applied by the coach, team management, and medical staff. The third level of engagement is between team physicians and the players/athletes. This approach introduces a novel application of broad shared decision making[10] to sports medicine and sport related concussion care at Organisational, Coach and Athlete levels, which we call "OCAsion" – decision making.

Shared Decision Making Teams

Shared decision making teams should be assembled at levels one and two. All relevant role players should be included to deliberate decision making options. Athlete / Player / Patient representation at all levels is important.

Key members of the *level one* shared decision making team are the most senior decision makers in the organisation in which this process is introduced (e.g. World Rugby, British Athletics, any football club executive management) and senior medical staff. At *level two*, key shared decision making team members are the head coach/manager and the team physician. *Level three* shared decision making teams will consist of the sports team and individual players (with parents in the case of youth players) and the team physician.

Timing

Appropriate timing of the shared decision making process is essential to circumvent as many biases as possible. Controversial decision making in the heat of the moment should be avoided if possible. The most opportune time would be when preparing for a new season. Once a policy has been adopted (level one), it should be easier to get buy-in from team management (level two). With the support of a policy and backing from the manager, a team doctor will have a much easier task to apply proper concussion care in the team (level three).

The Shared Decision Making Process

The process starts with effective education about concussion at all three levels. Such education should be balanced to convey the potential medical, performance-related, ethical and legal risks of poor concussion management. The transient loss of patient self-efficacy is a key point to address. A "client" centred approach or understanding the situation from the perspective of the non-medical, sport-oriented stakeholders, guides us to emphasise the sport and performance-related consequences of poor concussion management in the education.

All team members should understand and apply the shared decision making process. Underpinned by a clear understanding of sport-related concussion care, a discussion should take place along these established guidelines:

- "team talk" - the shared decision making teams at each of the three levels are established and the problem presented,
- "option talk" - each level of shared decision making team is presented with different options to deal with the problem, which are then deliberated, and

Table 1: Three levels of engagement in Shared Decision Making-"Extra" in sport related concussion

	Team Talk	**Option Talk**	**Decision Talk**	**Decision outcome**
Level 1 Organisational level [World Rugby, FIFA, national federation, football club or league]	Team: Inclusive group of decision makers Time: Initial action of the process Talk: Educate	Discuss biases, (as discussed in text) risk:benefit, consider options from all team members	Towards evidence-based policy	Concussion policy to facilitate Level 2 and 3 shared decision making
Level 2 Operational level [Team management, coaching and medical staff]	Team: coaching and technical staff; senior medical staff Time: Pre-season (after conclusion of Level 1) Talk: Educate and describe policy	Discuss biases Consider ways of implementing policy	Towards an implementation/ operational plan	Implementation/ operational plan in place before the start of a season/ competition
Level 3 Team/athlete level [Team physician, team and individual athletes]	Team: Athletes (team); team medical staff, coach Time: Pre-season (after conclusion of Level 2) Talk: Group education; individual baseline sessions	Balanced education Discuss medical and sport risk:benefit ratios Scenario setting	Towards a group and individual decision to adopt the implementation/ operational plan	Player written consent on shared decision before the start of a season/ competition

- "decision talk" - an informed shared decision is reached at each level and documented.

The outcome at all three levels should be written documents: at organisational level *(level one)* the process should culminate in a concussion management policy. Such policies will vary in approach and content to suit the sport and situation best. For example, independent sideline concussion physicians have been adopted in the NFL and World Rugby to smooth out sideline decision making. At operational (coach and team manager) management level *(level two)*, the outcome should be a concise operational plan to outline how concussion will be managed in *this* particular club or team, including the decision to remove a player from the field of play. At individual player level, the outcome is written and signed consent by each player authorising the team physician to "recognise and remove" players with suspected concussion.

The ultimate benefit of this meticulous process is that it gives the team physician freedom to consult the coach with confidence and make a less biased clinical decision. By rising to the "OCAsion" with decision making at organisational, coach and athlete levels, we will improve player safety in concussion. Furthermore, increased awareness and consensus in a team can help resolve other challenges in concussion care, such as graded return to sport[3].

All incidents of concussion should be debriefed by the operational and individual level shared decision making teams, soon after each incident (e.g. in the first few days after a match). This provides an opportunity to evaluate the efficacy of the process and to reinforce or adjust protocols.

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