

# The new concussion in sport guidelines are here. But how do we get them out there?

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The 2016 Consensus Statement on Concussion in Sport has recently been published in *BJSM*, as the major conduit for informing sports medicine practitioners and clinicians worldwide about the importance of this condition, its assessment and management.<sup>1</sup> This information dissemination strategy has worked well for previous concussion statements and has certainly raised the profile of the issue in sports medicine circles.<sup>2</sup>

## SUCCESSFUL DISSEMINATION OF GUIDELINES NEEDS TO CONSIDER THE RELEVANT IMPLEMENTATION CONTEXT

But publishing guidelines only in sports medicine journals means they only reach a particular target group, especially if no consideration is given to implementation and dissemination strategies more widely.<sup>2</sup> There is no doubt that sports medicine practitioners should be one of the major target groups for this information, but there are many other stakeholder groups (eg, coaches<sup>3</sup>) that are overlooked with this approach. Ensuring effective and sustained sports safety actions across all levels of sport, such as concussion guideline adoption, requires recognition of the ecological context in which sport is delivered, how participation is undertaken and the range of both professional and volunteers who support them.<sup>4</sup> The implementation role of the key stakeholders at each ecological level of concussion guideline implementation is shown in [table 1](#).

The principles behind optimal knowledge transfer for concussion guidelines and education internationally has previously been discussed in the *BJSM*.<sup>5</sup> To our knowledge, the preferred specific information sources for concussion knowledge have not been summarised. We draw on our experiences within a community (or recreational) sport delivery setting that

is common in many parts of the world to give suggestions for which organisations and/or professional groups should be the delivery agent/producer of such information.

## HOW DO PLAYERS AND PARENTS WANT TO BE INFORMED ABOUT CONCUSSION?

In the setting of community-wide Australian football participation, we have previously reported that both players<sup>6</sup> and parents of junior players<sup>7</sup> have limited awareness of concussion guidelines and have concerns about their ready application in community sport. These perceptions lead to the natural conclusion that both players and parents need to be better informed and educated about all aspects of concussion guidelines. Importantly, this cannot be achieved through papers published in peer-review journals and specific dissemination strategies would be needed for this.

As part of our discussions with both stakeholder groups,<sup>6,7</sup> we asked them about their preferred sources of concussion information. As shown in [tables 2 and 3](#), no one said ‘a medical journal’.

## HOW DO DOCTORS WANT TO BE INFORMED?

Given the importance of doctors, both as the recognised expert responsible for actioning concussion guidelines mentioned in the Consensus Statement<sup>1</sup> and as an important and preferred source of information recognised by both players and parents,<sup>6,7</sup> we surveyed general practitioners about their concussion knowledge and their preferred sources of information.<sup>8</sup> As shown in [table 4](#), none indicated ‘peer-review medical journal’ as a major concussion information source. Moreover, the vast majority of preferred sources were not linked to organisations or professionals most commonly directly associated with sport and its delivery—they wanted to get their information from recognised medical and medical education sources.

## BRING IN THE SOCIAL MARKETING EXPERTS

A recent study<sup>9</sup> has stressed the need to involve stakeholders ‘from the outset to

**Table 1** The ecological context (and hierarchical levels) of implementation of concussion guidelines in community, or recreational, sport\*

Ecological (or hierarchical) level of sports safety implementation	Implementation role
Players and parents of players	Target end users and beneficiaries of concussion education, guidelines and prevention; actions would be at both the individual and whole-of-team level
↓	
Coaches and sports trainers	Key community sports personnel to initially recognise a potential concussion has occurred, initiate local actions in response to the suspected/actual concussion, support and monitor the adoption of guidelines and support players diagnosed with concussion return to play
↓	
General practitioners (doctors)	Key role in diagnosing concussion and providing medical management of concussion. (In most community sport settings, it would not be common for sports physicians or sports physiotherapists to be associated with teams, so access to general medical personnel is necessary.)
↓	
Sports bodies (regional, national and/or international) and peak sports medicine/health promotion agencies	Setting of rule, preparation and dissemination of guideline information and other resources, supporting community sport infrastructure, education
↓	
International expert opinion	Determining, summarising, publishing and disseminating the scientific and medical content of concussion guidelines

\*This table describes the situation for countries where most sporting participation opportunities are provided through community-based or recreational sporting organisations. It is acknowledged that some countries, like the USA, have sports delivery systems that are more likely to be linked to high schools or university colleges and so some of the opportunities for intervention may be different. In particular, US-based sports have certified athletic trainers who would be a key conduit of concussion knowledge and action.

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**Table 2** Australian football players' preferred sources of concussion information (listed in terms of decreasing importance)\*

Preferences	Organisation or professionals who should be responsible for disseminating concussion information and resources of the preferred types				
	Coaches/sports trainers†	Medical doctors‡	Clubs/associations	Lead sport body§	Peak sports medicine agency¶
Clubs/coaches and trainers/league officials	✓		✓		
Seminars/information sessions at the start of season involving all players/teams/clubs	✓		✓	✓	
Posters displayed in club rooms, change rooms, etc.			✓	✓	✓
Players who have previously been concussed to share their experiences	✓	✓			
Doctors/hospitals (interestingly, they also doubt the expertise of most medical practitioners in relation to concussion <sup>7</sup> )		✓			
Hardcopy documents	✓		✓		
Mass/social media				✓	✓

\*Information obtained during three focus groups as reported in White *et al.*<sup>6</sup>

†In Australia, sports trainers are trained volunteers providing sports first aid and initial injury assessment at the sports sideline.

‡In community sport, it is unusual to have a sports doctor attached to sports teams so this would be a doctor with generalist medical qualifications only. In the US sporting system, this role may be filled by certified athletic trainers.

§In our work, this would be the Australian Football League. International equivalents would be FIFA, World Rugby Union, etc.

¶In Australia, this would be Sports Medicine Australia. International equivalents are the American College of Sports Medicine, British Association of Sport and Exercise Medicine, South African Sports Medicine Association, etc.

ensure the incorporation of sport-specific contextual influence that will increase the potential for wide-scale adoption and scale-up of preventive research findings'. As our findings show, the avenues for sports injury information dissemination preferred by these stakeholders are quite different to what is of most relevance to sports medicine practitioners; none are publications in peer-reviewed journals. Importantly, communicating with the broader medical community about concussion will require the sports medicine sector to first engage more directly with general medical education and

update avenues, as doctors are unlikely to readily recognise new information sources disseminated through sport-specific channels. So while disseminating information about concussion through local/national/international sports bodies might reach players and their parents, it will not reach the general community-based medical profession.

We are fortunate to now have expert-agreed, evidence-based statements to guide the management and detection of concussion.<sup>1</sup> But this information will only reach and also be adopted by all stakeholders if targeted disseminated

strategies are used and the learnings from social marketing are now applied.<sup>2</sup> New approaches to information dissemination that engage the range of organisations and practitioner groups, including intermediary agencies such as peak agencies<sup>10</sup> must be the focus of concussion prevention and management efforts going forward.

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**Contributors** CFF led the writing of this item and was the Chief Investigator of the funded project that underpinned this work. PW was the Project Manager and had oversight of all of the data collection activities

**Table 3** Parents' (of junior Australian football players) preferred sources of concussion information (listed in terms of decreasing importance)\*

Preferences	Organisation or professionals who should be responsible for disseminating concussion information and resources of the preferred types				
	Coaches/sports trainers†	Medical doctors‡	Clubs/associations	Lead sport body§	Peak sports medicine agency¶
Posters/DVD			✓	✓	✓
Seminars/training sessions			✓	✓	✓
Directly from (non-medical) professionals associated	✓		✓		
Level 1 sports trainer course**					✓
Doctors/emergency departments		✓			
League website/code of conduct			✓	✓	
Mass/social media				✓	✓

\*Information obtained during two focus groups as reported in White *et al.*<sup>7</sup>

†In Australia, sports trainers are trained volunteers providing sports first aid and initial injury assessment at the sports sideline.

‡In community sport, it is unusual to have a sports doctor attached to sports teams so this would be a doctor with generalist medical qualifications only. In the US sporting system, this role may be filled by certified athletic trainers.

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\*\*In Australia, this is delivered by Sports Medicine Australia and other accredited providers.

**Table 4** General practitioners' preferred sources of information about concussion\*

Preferences	Organisation or professionals who should be responsible for disseminating concussion information and resources of the preferred types					
	Players/parents	Coaches/trainers	Sports club/association	Peak sport body	Lead sports medicine agency	Lead medical authority (general)
Continuing medical education course/conferences						✓
Consultations with specialists					✓	✓
Consulting with colleagues						✓
Australian College of Sports and Exercise Physicians (ACSEP)						✓
Conferences/seminars/dinners						✓
Sports Medicine Australia					✓	
Training in medical school or residency						✓
Websites (eg, Think First, Centre for Disease Control)					✓	✓
Social network/media					✓	✓

\*Views collected as part of general practitioner survey reported in Donaldson *et al.*<sup>8</sup>

that generated the data reported here. Both contributed to the writing of the paper

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