Revision, uptake and coding issues related to the open access Orchard Sports Injury Classification System (OSICS) versions 8, 9 and 10.1

John Orchard1
Katherine Rae1
John Brooks2
Martin Hägglund3
Lluis Til4
David Wales5
Tim Wood6
1Sports Medicine at Sydney University, Sydney NSW Australia; 2Rugby Football Union, Twickenham, England, UK; 3Department of Medical and Health Sciences, Linköping University, Linköping, Sweden; 4FC Barcelona, Barcelona, Catalonia, Spain; 5Arsenal FC, Highbury, England, UK; 6Tennis Australia, Melbourne, Vic, Australia

Abstract: The Orchard Sports Injury Classification System (OSICS) is one of the world’s most commonly used systems for coding injury diagnoses in sports injury surveillance systems. Its major strengths are that it has wide usage, has codes specific to sports medicine and that it is free to use. Literature searches and stakeholder consultations were made to assess the uptake of OSICS and to develop new versions. OSICS was commonly used in the sports of football (soccer), Australian football, rugby union, cricket and tennis. It is referenced in international papers in three sports and used in four commercially available computerised injury management systems. Suggested injury categories for the major sports are presented. New versions OSICS 9 (three digit codes) and OSICS 10.1 (four digit codes) are presented. OSICS is a potentially helpful component of a comprehensive sports injury surveillance system, but many other components are required. Choices made in developing these components should ideally be agreed upon by groups of researchers in consensus statements.

Keywords: sports injury classification, epidemiology, surveillance, coding

Introduction

Ongoing sports injury surveillance is a fundamental pillar of sports injury prevention1–4 in a process described originally by van Mechelen et al5 and more recently by Finch.6 It is to sports medicine what cancer registries are to oncology or traffic accident databases are to traumatology. One of the reasons why sports injury prevention has been generally elusive is that there are very few long-standing sports injury surveillance systems in the world. Many of the existing systems are funded by professional sporting competitions, as part of due diligence, but on the premise that the raison d’être for professional sport is entertainment rather than injury containment. Some of the long-standing injury surveillance systems in non-professional sport have led to successful injury prevention, such as the Accident Compensation Corporation (ACC) in New Zealand7–9 and the National Register of Catastrophic Spinal Injuries in the USA,10 plus the introduction of breakaway bases in some amateur baseball leagues.11 In professional sport there have been some successful reductions of specific injuries.12

An important part of injury surveillance is coding of injury diagnoses, although it is important to note that there are many other aspects to injury surveillance systems than just coding.1 The two major purposes of coding are to facilitate retrieval of records of a certain type for future analysis and to collate diagnoses into common groups to follow trends in injury incidence and prevalence13 (as per the van Mechelen paradigm). There is a trade-off between simplicity (which assists ease of use and categorization) and a comprehensive list of codes (which improves accuracy).13,14
Only a few papers have analysed issues related to coding of sports medicine diagnoses, such as accuracy. These issues have some importance however, as they have the ability to affect the comparability and compliance of injury surveillance.

The Orchard Sports Injury Classification System (OSICS) is perhaps the world’s most widely used injury coding system in sports medicine. Its uptake is due to a combination of being a free-to-use system and having codes which are specific to sports medicine.

OSICS was updated to version 6 in 1998, version 7 in 2000 and version 8 in 2002. In 2005, it was determined that, for some purposes, there were permanent inadequacies in a three character coding system. Therefore, a four character system was created in 2007. It was named OSICS version 10 as it was envisaged that there would still be a role for a three character system and that when OSICS 8 was updated it should be called OSICS 9. Minor updates which only change a few codes can be made, with versions progressing using a decimal point (for example this study will include OSICS version 10.1 which is only marginally different to OSICS 10).

The aims of this study were to:
1. document the extent of uptake of OSICS by major research groups in sports medicine
2. discuss the issues and problems with implementation and coding of OSICS from experienced stakeholders, along with suggestions for how to handle conflicts
3. present suggested standard injury categories for some of the world’s major sports where injury classification is used, and
4. present updated versions of OSICS (version 9 and version 10.1)

Methods
The first author and creator of OSICS (John Orchard) along with the primary creator of OSICS version 10 (Katherine Rae) are in regular email contact with key stakeholders in the sports of football (soccer), Australian football, cricket, tennis and rugby union, the sports in which OSICS has primarily been used. The majority of these stakeholders are included as coauthors in this paper. In addition, programmers associated with various athlete management systems, who have installed OSICS as a freeware add-on, were consulted via email. This consultation process was fairly informal, particularly by comparison to the processes involved in updating more comprehensive and established systems like the International Classification of Diseases (ICD). However, this consultation process was the same as the process for updating OSICS versions 1 through 7.

To further assess uptake of OSICS, various literature searches were performed for the expressions ‘OSICS’ and ‘Orchard codes’ (PubMed, Sport Discus, Google Scholar) as well as a citation tracker for the specific OSICS papers.

Results
The following groups/sports have been identified as users of OSICS:
1. Australian Football League injury surveillance, which has used OSICS for 18 seasons and was the original system for which the OSICS codes were designed.
2. Cricket Australia injury surveillance system and international consensus definitions for cricket injuries.
3. UEFA injury surveillance system and international consensus definitions for football (soccer) injuries.
4. A rugby union injury surveillance instrument, an international consensus statement on injury definitions and data collection for rugby union injuries and the England Rugby Injury and Training Audit which has used OSICS since its inception in 2002.
5. The international consensus definitions for tennis and Tennis Australia injury surveillance system.
6. Experts providing advice to the International Olympic Committee on injury surveillance in team sports.
7. Multiple athlete management systems including Sports Injury Manager, Athletic Logic, Fairplay and Injury Tracker.

OSICS version 8 has been previously identified as being superior to the ICD 10 for coding sports injury diagnoses. However, deficiencies in OSICS 8 led to the development of a new version of OSICS. This was labelled version 10, as it included a significant modification of the inclusion of a fourth character. This enabled OSICS 8 to be updated at a later date to a version 9, still using three digits only, which is presented in this paper. OSICS 10, by virtue of a greater number of codes, is able to give more comprehensive diagnostic differentiation and hence greater diagnostic accuracy than a 3 digit system. The three digit system still retains a potential advantage of having fewer choices for the user and therefore finding an applicable code from a shorter list may be easier. However, this advantage is
obviously negated if the user feels that no code is correct or specific enough.

In a computerised system, it is not ideal to have an unfiltered drop down list of all OSICS codes to choose between. This involves many hundreds of codes, often making it hard for the user to find the most applicable code (particularly in OSICS version 10). It is recommended that programmers include filters for any or all of body part, injury type, or keywords, which can then reduce a drop-down list of potential codes to a small number from which to choose. An ‘intelligent’ system could use keywords from a text diagnosis provided to suggest the best fit OSICS codes to form a drop down list, from which the user could choose the most appropriate code. An even more intelligent system could allow the user to expand the drop down list (if nothing suitable was suggested in the drop down list) or narrow it (if too many codes were provided to choose between). If no filtering is used, it would be recommended that the body part was chosen as the first word of the text descriptor field, which would help organise an alphabetical list of text fields (eg, calcaneus fracture, rather than fractured calcaneus).

Suggested or example injury categories for some of the major sports which use OSICS are presented in Tables 1, 2 and 3. These vary between sports to reflect the relevance of various diagnoses. For example, abdominal (‘side’) strains are common injuries in fast bowlers in cricket, but rare injuries in most other sports. Stingers or burners (cervical nerve root compression injuries) are common injuries in rugby union but again uncommon in other sports. These injury categories should probably be further refined by consensus groups within the sport, hence are listed as suggested rather than recommended at this stage. Some injury categories need to be separated depending on the injury definition in a sport. For example, in the football codes, head and facial lacerations are common enough to warrant a separate injury category if the injury definition is based on medical treatment. However, if the injury definition is based on time loss (with a threshold of 24 hours or more), then head and facial lacerations probably do not warrant their own separate category, as they rarely result in time loss other than possibly on the day of occurrence. The suggested and example categories represent the bias of the primary author and are not necessarily the preferences of the other authors in their particular sports. They have been included because of the presence of injury category code numbers for OSICS 9 in the Appendix.

### Table 1 Suggested global injuries category for merging of OSICS codes

| Region ID | Region | Injcat ID | Injury category |
|-----------|--------|-----------|----------------|
| 1         | Head and neck | 1 | Head and neck soft tissue trauma |
| 3         | Eye injuries |
| 5         | Concussion |
| 6         | Facial bone fractures |
| 9         | Other head organ damage |
| 11        | Skull and neck fractures |
| 12        | Neck neurological injuries |
| 17        | Jaw sprains |
| 18        | Neck muscle strains |
| 19        | Neck sprains |
| 2         | Shoulder/arm/elbow | 21 | Shoulder sprains and dislocations |
| 22        | A-C (acromioclavicular) joint |
| 23        | Fractured clavicles |
| 24        | Shoulder tendon injuries |
| 25        | Other arm and elbow fractures |
| 26        | Shoulder and arm stress fractures |
| 29        | Shoulder and arm neurovascular |
| 30        | Upper arm muscle strains |
| 32        | Shoulder and arm soft tissue trauma |
| 33        | Elbow sprains or joint injuries |
| 34        | Elbow tendon injuries |
| 35        | Forearm fractures |
| 40        | Scaphoid fractures |
| 41        | Other wrist and hand fractures |
| 45        | Forearm and hand stress fractures |
| 46        | Forearm and hand soft tissue trauma |
| 47        | Forearm and hand neurovascular |
| 48        | Hand tendon injuries |
| 49        | Wrist and hand sprains and dislocations |
| 4         | Trunk/back/buttock | 51 | Rib fractures |
| 52        | Rib and costochondral bruising |
| 53        | S/C joint sprains |
| 54        | Abdominal and thoracic organ damage |
| 55        | Lumbar and thoracic fractures |
| 56        | Rib stress fractures |
| 57        | Pneumothorax |

(Continued)
Table 1 (Continued)

| Region ID | Region                | Injcat ID | Injury category                              |
|-----------|-----------------------|-----------|----------------------------------------------|
| 59        | Lumbar and thoracic   |           | Lumbar and thoracic soft tissue trauma       |
| 60        | Buttock injuries      |           | Buttock injuries                            |
| 61        | Lumbar and thoracic   |           | Lumbar and thoracic sprains                 |
| 62        | Lumbar stress fractures|          | Lumbar stress fractures                      |
| 63        | Trunk muscle strains  |           | Trunk muscle strains                        |
| 64        | Hip joint injuries    |           | Hip joint injuries                          |
| 65        | Groin and thigh stress fractures | | Groin and thigh stress fractures             |
| 66        | Hip and groin contusions |      | Hip and groin contusions                     |
| 67        | Groin strain injuries |           | Groin strain injuries                        |
| 68        | Pelvic and thigh      |           | Pelvic and thigh fractures                   |
| 69        | Groin and thigh       |           | Groin and thigh neurovascular               |
| 70        | Hamstring strains     |           | Hamstring strains                            |
| 71        | Quadriceps strains    |           | Quadriceps strains                          |
| 72        | Thigh contusions      |           | Thigh contusions                            |
| 73        | Knee – ACL (anterior cruciate ligament) | | Knee – ACL (anterior cruciate ligament)    |
| 74        | Knee – MCL (medial ligament) | | Knee – MCL (medial ligament)               |
| 75        | Knee – PCL (posterior cruciate ligament) | | Knee – PCL (posterior cruciate ligament)   |
| 76        | Knee cartilage injuries |      | Knee cartilage injuries                      |
| 77        | Knee and patellar tendon injuries | | Knee and patellar tendon injuries           |
| 78        | Other knee sprains    |           | Other knee sprains                          |
| 79        | Patella instability   |           | Patella instability                         |
| 80        | Patella stress fractures |      | Patella stress fractures                     |
| 81        | Knee and patella fractures |     | Knee and patella fractures                   |
| 82        | Knee contusions       |           | Knee contusions                             |
| 83        | Leg fractures         |           | Leg fractures                                |
| 84        | Leg stress fractures  |           | Leg stress fractures                         |
| 85        | Calf strains          |           | Calf strains                                 |
| 86        | Leg and foot soft tissue trauma | | Leg and foot soft tissue trauma             |
| 87        | Shin soreness         |           | Shin soreness                               |
| 88        | Achilles tendon       |           | Achilles tendon                             |
| 89        | Ankle sprains and joint injuries | | Ankle sprains and joint injuries           |
| 90        | Foot bone fractures   |           | Foot bone fractures                          |
| 91        | Foot stress fractures |           | Foot stress fractures                        |
| 92        | Foot and ankle neurovascular | | Foot and ankle neurovascular                |
| 93        | Other shin and foot stress injuries | | Other shin and foot stress injuries        |
| 94        | Foot sprains          |           | Foot sprains                                |
| 95        | Illness, general      |           | Illness, general                            |
| 96        | Environment-related illness | | Environment-related illness                   |

Table 2 Suggested specific injury categories for Australian football and cricket, further merged from the categories in Table 1

| Injcat ID | Australian football category | Cricket category |
|-----------|------------------------------|------------------|
| 1         | Other head and neck injuries | Other head and neck injuries |
| 3         | Other head and neck injuries | Other head and neck injuries |
| 5         | Concussion                    | Other head and neck injuries |
| 6         | Facial fractures              | Facial fractures   |
| 9         | Other head and neck injuries | Other head and neck injuries |
| 11        | Other head and neck injuries | Other head and neck injuries |
| 12        | Other head and neck injuries | Other head and neck injuries |
| 17        | Other head and neck injuries | Other head and neck injuries |
| 18        | Other head and neck injuries | Other head and neck injuries |
| 19        | Neck sprains                  | Other head and neck injuries |
| 21        | Shoulder sprains and dislocations | | Other shoulder injuries |
| 22        | A/C joint injuries            | Shoulder/arm/elbow fractures |
| 23        | Fractured clavicles           | Shoulder/shoulder injuries |
| 24        | Other shoulder/arm/ elbow injuries | | Shoulder/elbow tendon injuries |
| 25        | Other shoulder/arm/ elbow injuries | | Shoulder/arm/elbow fractures |
| 26        | Other shoulder/arm/ elbow injuries | | Shoulder/arm/elbow fractures |
| 27        | Other shoulder/arm/ elbow injuries | | Other shoulder injuries |
| 28        | Other shoulder/arm/ elbow injuries | | Other shoulder injuries |
| 29        | Other shoulder/arm/ elbow injuries | | Other shoulder injuries |
| 30        | Other shoulder/arm/ elbow injuries | | Other shoulder injuries |
| 31        | Other shoulder/arm/ elbow injuries | | Other shoulder injuries |
| 32        | Other shoulder/arm/ elbow injuries | | Other shoulder injuries |
| 33        | Elbow sprains or joint injuries | | Elbow sprains or joint injuries |
| 34        | Other shoulder/arm/ elbow injuries | | Shoulder/elbow tendon injuries |
| 35        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 36        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 37        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 38        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 39        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 40        | Other hand/forearm/ wrist injuries | | Other wrist/hand injuries |
| 41        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 42        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 43        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 44        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 45        | Forearm/wrist/hand fractures | Forearm/wrist/hand fractures |
| 46        | Other hand/forearm/ wrist injuries | | Other wrist/hand injuries |
| 47        | Other hand/forearm/ wrist injuries | | Other wrist/hand injuries |
| 48        | Other hand/forearm/ wrist injuries | | Other wrist/hand injuries |

(Continued)
Table 2 (Continued)

| Injcat ID | Australian football category | Cricket category |
|-----------|------------------------------|-----------------|
| 49        | Other hand/forearm/wrist injuries | Other wrist/hand injuries |
| 51        | Rib and chest wall injuries | Other buttock/back/trunk injuries |
| 52        | Rib and chest wall injuries | Other buttock/back/trunk injuries |
| 53        | Rib and chest wall injuries | Other buttock/back/trunk injuries |
| 54        | Other buttock/back/trunk injuries | Other buttock/back/trunk injuries |
| 55        | Lumbar and thoracic spine injuries | Other buttock/back/trunk injuries |
| 56        | Rib and chest wall injuries | Side and abdominal strains |
| 57        | Rib and chest wall injuries | Other buttock/back/trunk injuries |
| 59        | Lumbar and thoracic spine injuries | Other buttock/back/trunk injuries |
| 60        | Other buttock/back/trunk injuries | Other buttock/back/trunk injuries |
| 61        | Lumbar and thoracic spine injuries | Other buttock/back/trunk injuries |
| 62        | Lumbar and thoracic spine injuries | Lumbar stress fractures |
| 63        | Other buttock/back/trunk injuries | Side and abdominal strains |
| 72        | Other hip/groin/thigh injuries | Other hip/groin/thigh injuries |
| 73        | Other hip/groin/thigh injuries | Other hip/groin/thigh injuries |
| 74        | Thigh and hip contusions | Other hip/groin/thigh injuries |
| 75        | Groin strains and osteitis pubis | Groin strains and osteitis pubis |
| 76        | Other hip/groin/thigh injuries | Other hip/groin/thigh injuries |
| 77        | Groin strains and osteitis pubis | Other hip/groin/thigh injuries |
| 81        | Hamstring strains | Hamstring strains |
| 82        | Quadriceps strains | Quadriceps strains |
| 83        | Thigh and hip contusions | Other hip/groin/thigh injuries |
| 91        | Knee ACL | Knee ligament injuries |
| 92        | Knee MCL | Knee ligament injuries |
| 93        | Knee PCL | Knee ligament injuries |
| 94        | Knee cartilage | Knee cartilage |
| 95        | Knee and patella tendon injuries | Other knee injuries |
| 96        | Other knee injuries | Other knee injuries |
| 97        | Patella injuries | Other knee injuries |
| 98        | Patella injuries | Other knee injuries |
| 99        | Other knee injuries | Other knee injuries |
| 100       | Other knee injuries | Other knee injuries |
| 101       | Leg and foot fractures | Other leg/foot/ankle injuries |

(Continued)
Table 3 (Continued)

| Injcat ID | Soccer category                      | Rugby union category                      |
|-----------|--------------------------------------|------------------------------------------|
| 26        | Other shoulder/arm/ elbow injuries   | Other shoulder/arm/ elbow injuries        |
| 29        | Other shoulder/arm/ elbow injuries   | Other shoulder/arm/ elbow injuries        |
| 30        | Other shoulder/arm/ elbow injuries   | Other shoulder/arm/ elbow injuries        |
| 32        | Other shoulder/arm/ elbow injuries   | Other shoulder/arm/ elbow injuries        |
| 33        | Other shoulder/arm/ elbow injuries   | Elbow sprains or joint injuries           |
| 34        | Other shoulder/arm/ elbow injuries   | Other shoulder/arm/ elbow injuries        |
| 40        | Forearm/wrist/hand injuries          | Forearm/wrist/hand fractures              |
| 41        | Forearm/wrist/hand injuries          | Forearm/wrist/hand fractures              |
| 44        | Forearm/wrist/hand injuries          | Forearm/wrist/hand fractures              |
| 45        | Forearm/wrist/hand injuries          | Forearm/wrist/hand fractures              |
| 46        | Forearm/wrist/hand injuries          | Other hand/forearm/wrist injuries         |
| 47        | Forearm/wrist/hand injuries          | Other hand/forearm/wrist injuries         |
| 48        | Forearm/wrist/hand injuries          | Other hand/forearm/wrist injuries         |
| 49        | Forearm/wrist/hand injuries          | Other hand/forearm/wrist injuries         |
| 51        | Rib and chest wall injuries          | Rib and chest wall injuries               |
| 52        | Rib and chest wall injuries          | Rib and chest wall injuries               |
| 53        | Rib and chest wall injuries          | Rib and chest wall injuries               |
| 54        | Other buttock/back/trunk injuries    | Other buttock/back/trunk injuries         |
| 55        | Lumbar and thoracic spine injuries   | Lumbar and thoracic spine injuries        |
| 56        | Rib and chest wall injuries          | Rib and chest wall injuries               |
| 57        | Rib and chest wall injuries          | Rib and chest wall injuries               |
| 59        | Lumbar and thoracic spine injuries   | Lumbar and thoracic spine injuries        |
| 60        | Other buttock/back/trunk injuries    | Other buttock/back/trunk injuries         |
| 61        | Lumbar and thoracic spine injuries   | Lumbar and thoracic spine injuries        |
| 62        | Lumbar and thoracic spine injuries   | Lumbar and thoracic spine injuries        |
| 63        | Other buttock/back/trunk injuries    | Other buttock/back/trunk injuries         |
| 72        | Other hip/groin/thigh injuries       | Other hip/groin/thigh injuries            |
| 73        | Other hip/groin/thigh injuries       | Other hip/groin/thigh injuries            |
| 74        | Thigh and hip contusions             | Thigh and hip contusions                  |
| 75        | Groin strains and osteitis pubis     | Groin strains and osteitis pubis          |
| 76        | Other hip/groin/thigh injuries       | Other hip/groin/thigh injuries            |

(Continued)

| Injcat ID | Soccer category                      | Rugby union category                      |
|-----------|--------------------------------------|------------------------------------------|
| 77        | Groin strains and osteitis pubis     | Groin strains and osteitis pubis          |
| 81        | Hamstring strains                    | Hamstring strains                         |
| 82        | Quadriceps strains                   | Quadriceps strains                        |
| 83        | Thigh and hip contusions             | Thigh and hip contusions                  |
| 91        | Knee ACL                             | Knee ACL                                  |
| 92        | Knee MCL                             | Knee MCL                                  |
| 93        | Knee PCL                             | Knee PCL                                  |
| 94        | Knee cartilage                       | Knee cartilage                            |
| 95        | Knee and patella tendon injuries     | Knee and patella tendon injuries          |
| 96        | Other knee injuries                  | Other knee injuries                       |
| 97        | Patella injuries                     | Patella injuries                          |
| 98        | Patella injuries                     | Patella injuries                          |
| 99        | Other knee injuries                  | Other knee injuries                       |
| 100       | Other knee injuries                  | Other knee injuries                       |
| 101       | Leg and foot fractures               | Leg and foot fractures                    |
| 102       | Lower leg/foot stress fractures      | Lower leg/foot stress fractures           |
| 103       | Calf strains                         | Calf strains                              |
| 104       | Other leg/foot/ankle injuries        | Other leg/foot/ankle injuries             |
| 105       | Other leg/foot/ankle injuries        | Other leg/foot/ankle injuries             |
| 106       | Achilles tendon injuries             | Achilles tendon injuries                  |
| 107       | Ankle sprains or joint injuries      | Ankle sprains or joint injuries           |
| 111       | Leg and foot fractures               | Leg and foot fractures                    |
| 112       | Lower leg/foot stress fractures      | Lower leg/foot stress fractures           |
| 113       | Other leg/foot/ankle injuries        | Other leg/foot/ankle injuries             |
| 118       | Other leg/foot/ankle injuries        | Other leg/foot/ankle injuries             |
| 119       | Other leg/foot/ankle injuries        | Other leg/foot/ankle injuries             |
| 121       | Medical illnesses                    | Medical illnesses                         |
| 122       | Medical illnesses                    | Medical illnesses                         |

Some sports/users may prefer not to combine body parts and injury types in the same table. For example, in the soccer1 and tennis12,32 consensus statements the groups recommended tabulating separately by body area and then by injury type. It is easier (but still not straightforward) to determine the boundary between categories when choosing a ‘body part’ or ‘injury type’ list, compared to a more global injury category list. For example, should groin/hip/thigh be a body part category or separated into groin/hip and thigh? And if it is separated, are all adductor muscle strains to be included in the groin section, or does it depend on whether they are proximal (groin) or distal (thigh)? It is useful to be able to read, say, the rate of ‘muscle strains’ from a surveillance system and also the rate of ‘thigh injuries’. Where...
the consensus statements currently recommend tabulating separately by body part and by injury type then obviously this format is recommended.

However, many readers of reports will specifically want to know the rate of common injuries, such as ‘hamstring injuries’ for example. This rate is not clear if only categorization is made by body part and then by injury type. If a hybrid table is formed (as has been attempted in Tables 2 and 3) there needs to be agreement on which injuries warrant their own separate category (balanced against the need to keep the table a reasonable size). Depending on how common hamstring injuries are in a sport, they can form their own separate injury category or can be combined with quadriceps strains (to form a category of ‘hamstring and thigh muscle strains’) or with groin and quadriceps muscle strains (to form a category of ‘upper leg muscle strains’). Because of the multiple approaches of tabulating categories, it is suggested that each sport includes this issue as part of future consensus statements or consensus statement updates.

New lists of injury codes for versions 9 (three digit codes) and 10.1 (four digit codes) are available from http://injuryupdate.com.au/research/OSICS.htm. OSICS version 10 has recently been translated into Spanish (http://www.apunts.org/ficheros/apunts/videos/ocsis10-es.xls) and Catalan, with further versions possible in other languages.

Discussion
This paper presents for the first time OSICS version 9, which is essentially the first major modification of OSICS 8, retaining the three code system. It is ideal for use in an injury management system where easy and simple coding is preferred. This is most likely to be the case where the main purpose of coding is to assist grouping into larger injury categories for presentation in reports or scientific papers. Where the aims of an injury surveillance system also involve an archiving function, to be able to retrieve records with greater specificity, OSICS version 10 is preferred. This study also presents version 10.1, which is very similar to the original version 10 but contains a few minor modifications (hence does not qualify as a major rewrite, which may one day be done with a version 11).

One of the major advantages of OSICS is the fact that the system is available worldwide for free use. This fact alone is a good explanation for the popularity and uptake of the system. However, the fact that no income is earned by the system means that updates and product support are below an ideal level. Most users would probably prefer suboptimal support and an ongoing free system compared to a product licence with a greater level of support for queries and system implementation.

Ideally, in the future, a major update of OSICS (say to version 11) would involve a formal consultative process in a similar fashion to updates of the ICD. Part of the process could include, for example, multiple expert and novice users attempting to code a long list of provided text diagnoses. Where there was broad agreement amongst the users, no changes to codes would be deemed necessary. Where users were in disagreement or unable to agree on a suitable OSICS code, a new or modified code could be established for the new version. Such a process would be time- and resource-consuming and would require funding. If a private body provided the funding for such a process, it may require assignment of copyright in the new system in return. This would obviously improve the system, but potentially at a cost of the new version being freely available for use.

It is important to note that OSICS is not a comprehensive injury surveillance system itself, only a system for coding major diagnoses. Diagnosis and injury code are important fields in a sports injury database or injury surveillance system. Other data which are also relevant are injury side, injury mechanism (eg, noncontact vs contact), date of onset, date of return (severity), activity of onset (eg, match play, training, insidious onset) and exposure time. Another dilemma which users and coordinators of injury surveillance systems must address is whether to allow multiple injury codes/diagnoses for single events. For example, a valgus mechanism knee injury is a single event but may be associated with a combination of injuries (such as medial collateral ligament (MCL) + anterior cruciate ligament (ACL) sprains). This could be coded as a single injury, with deference given to the more significant of the two diagnoses (ie, ACL injury is of more significance than MCL injury). Alternatively it could be coded as two different injuries with the same mechanism and date/time of onset. It is also possible in an injury surveillance system for a single injury event to contain multiple injury codes as part of the one ‘injury’ (ie, combined ACL/MCL diagnosis).

Because there are so many similar dilemmas when conducting injury surveillance, it is recommended that for sports where many different groups are undertaking injury surveillance that consensus papers be developed. With respect to use of OSICS, for those consensus groups that decide to recommend it, there would be a lot of benefit in suggesting broad injury categories for tabulation (cricket consensus statement paper14,37). The more common ground there is between various research groups in their methodology, the more valid are comparisons between studies undertaken by different author groups.
Disclosures
The authors report no conflicts of interest in this work.

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