The incidence and nature of injuries in first-league and provincial cricketers

R. A. STRETCH

Abstract This study investigated the incidence and nature of injuries sustained by club and provincial cricketers during a season. Questionnaire responses were obtained from 183 (59%) of 308 cricketers canvassed. The overall seasonal incidence of risk of injury in all players was 49.1% and this was higher for provincial cricketers (71.6%). The single most common site of injury was the fingers (26.5%). The seasonal incidence of injuries in bowlers (42%) and fielders (40.9%) was higher than in batsmen (17.1%). Young players (< 26.2 years) sustained more injuries than older players. The majority of injuries occurred during matches (69.3%), particularly near the beginning and the end of the season. Furthermore, 23.9% of the injuries were recurrent injuries from the previous season and 22.7% of injuries sustained recurred during the season. Cricket injuries have not yet reached serious proportions, but all involved need to be aware of their incidence and nature.


The popularity and success that cricket, especially limited-overs cricket at provincial level, has enjoyed over the past decade has placed greater demands on cricketers as a result of the increase in the number of matches played. The increased physical demands on the players may be associated with an increased risk of injuries. However, few well-conducted studies have documented the incidence and nature of cricket injuries during a season, and no studies have been made of South African cricket players.

The incidence of cricket injuries has been reported in two studies. In club cricket players the incidence of cricket injuries was reported as 2,6/10 000 man-hours played, while the incidence in first-class cricketers in Australia was 335/10 000 man-hours played.

The anatomical sites of injuries in cricket have been reported in a number of studies. Injuries to the head, neck and face accounted for between 20% and 25%. Concussions, contusions, lacerations and nose bleeds were most commonly reported.

However, traumatic eye injuries are the most serious injuries incurred during matches and are usually case series. Specific data on the incidence and nature of injuries incurred during a season by club and provincial cricketers are therefore limited.

The aim of this investigation was to determine the incidence of the most common injuries sustained by club and provincial cricketers during a season. A secondary aim was to identify possible risk factors associated with these injuries.

Subjects and methods

The sample population consisted of 308 male cricket players who had been injured while playing for their province's top club team at the National Cricket Club Championships or a provincial team that played in the author's home province during either the 1988/89 or 1989/90 seasons. A questionnaire was handed out to all the players by the team manager; it sought the following information: (i) anatomical site of injury; (ii) month of injury; (iii) the cause of the injury; (iv) whether it was a back and trunk injuries. Back and trunk injuries account for 14 - 18% of all injuries sustained by cricketers.

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recurrence of a previous injury; and (v) whether the injury had recurred again during the season. The players were required to complete the questionnaires and return them. The return rate was 59.4% (183 players). As this is considered a high response for a questionnaire study, a second questionnaire was not sent out.

An injury was defined as any physical damage that occurred during a match, practice or training session and prevented the player from completing the match, practice or training session. For the purpose of this survey the incidence of injury was expressed as a percentage of the total number of respondents. The injuries were grouped according to which of four areas in the body they affected: (i) the head, neck and face region; (ii) the upper limbs; (iii) the back and trunk; and (iv) the lower limbs. These injuries were classified according to whether they were batting, bowling or fielding injuries. To allow for comparisons between the phases of play during which the injuries were sustained, the number of injuries for each phase was then expressed as a percentage of the total number of injuries. A comparison was made showing the time of the season when the injury occurred. The off-season was defined as that period when no specific cricket practice or training was performed. The pre-season was when specific cricket practice, training and friendly matches were played. The season was defined as that period when official matches in the various competitions were played. No medical records were obtained from the injured players.

Statistical analysis

The Sample Statistical Analysis System (SAS) was used to compute univariate statistics, frequency distributions and to perform cross-tabulations. The $\chi^2$-test was used to document the differences in frequency of injury among subpopulations of players.

Results

Ten of the cricketers in this investigation had played cricket at international level and 104 at provincial level. The remaining 69 had played only first-league cricket. The respondents were 54 batsmen, 56 all-rounders, 55 bowlers and 18 wicket-keepers. The age, body mass and stature of the cricket players were 26.2 ± 5.0 years, 81.6 ± 9.0 kg and 181.7 ± 7.0 cm, respectively.

The training histories of the respondents are detailed in Fig. 1. During the off-season 58.5% of the respondents spent no time practising or training. In the pre-season period 68.5% of the respondents spent between 1 hour and 6 hours a week practising and training. During the season 48.4% and 51.6% of the respondents spent 1-6 hours and more than 6 hours per week, respectively, practising and training.

A total of 88 injuries were reported by the respondents. The seasonal incidence of cricket injuries in this group was thus 48.1%. These included injuries to the head, neck and face (9.1%), upper limbs (34.1%), back and trunk (19.3%) and lower limbs (37.5%) (Table I).

The incidence of injuries in provincial cricketers (71.6%) was higher than in club cricketers (28.4%), although this was not statistically significant ($P > 0.05$). Bowling (42%) and fielding (40.9%) accounted for the majority of all injuries sustained. Most bowling injuries affected the lower limbs (51.4%) and the back (40.5%). Fielding injuries were sustained mainly in the upper limbs (26.1%). The batting injuries (17.1%) were predominantly muscle strains and impact injuries (Table I).

<table>
<thead>
<tr>
<th>Phase of play during which injuries occurred (%)</th>
<th>Bowling</th>
<th>Batting</th>
<th>Fielding</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head, neck and face</td>
<td></td>
<td>4.5</td>
<td>4.6</td>
<td>9.1</td>
</tr>
<tr>
<td>Upper limbs</td>
<td>3.4</td>
<td>4.6</td>
<td>26.1</td>
<td>34.1</td>
</tr>
<tr>
<td>Back and trunk</td>
<td>17.0</td>
<td>2.3</td>
<td></td>
<td>19.3</td>
</tr>
<tr>
<td>Lower limbs</td>
<td>21.6</td>
<td>5.7</td>
<td>10.2</td>
<td>37.5</td>
</tr>
<tr>
<td>Total</td>
<td>42.0</td>
<td>17.1</td>
<td>40.9</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The recovery time from injuries sustained in the different anatomical regions is shown in Table II. Twenty-three per cent of the injuries were severe enough to prevent the cricketers’ return to play for more than 21 days, while 47.8% and 27.2% of those injured were not able to practise or play for between 1 and 7 days, and 8 and 21 days, respectively.

<table>
<thead>
<tr>
<th>Injury Location</th>
<th>1-7 d</th>
<th>8-21 d</th>
<th>&gt; 21 d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head, neck and face</td>
<td>6.8</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>Upper limbs</td>
<td>17.1</td>
<td>6.8</td>
<td>10.2</td>
</tr>
<tr>
<td>Back and trunk</td>
<td>11.4</td>
<td>4.5</td>
<td>3.4</td>
</tr>
<tr>
<td>Lower limbs</td>
<td>12.5</td>
<td>14.8</td>
<td>10.2</td>
</tr>
<tr>
<td>Total</td>
<td>47.8</td>
<td>28.4</td>
<td>23.8</td>
</tr>
</tbody>
</table>

Table III shows the number of injuries sustained in the four anatomical regions during matches alone, practices alone or during matches and practices. Most injuries occurred during matches (69%).

<table>
<thead>
<tr>
<th>Injuries sustained during matches and practices</th>
<th>Match</th>
<th>Practice</th>
<th>Match/practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head, neck and face</td>
<td>6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Upper limbs</td>
<td>22</td>
<td>7</td>
<td>34.1</td>
</tr>
<tr>
<td>Back and trunk</td>
<td>9</td>
<td>5</td>
<td>19.3</td>
</tr>
<tr>
<td>Lower limbs</td>
<td>24</td>
<td>9</td>
<td>37.5</td>
</tr>
<tr>
<td>Total (%)</td>
<td>69</td>
<td>26</td>
<td>100</td>
</tr>
</tbody>
</table>

The total number of injuries among respondents in each month during the pre-season period and the season is depicted in Fig. 2. In the pre-season period most injuries occurred in the last month before the season began. During the season most injuries occurred early or late in the season.

![Training history of the cricketers.](image)
Lower limb injuries in batsmen were also mainly hamstring, quadriceps and calf muscle strains. These injuries were sustained in matches while they were running between the wickets. These results should encourage batsmen to practise this skill by including it in their training sessions. To stimulate the actual match situation they should practise this running between the wickets with their full kit on, as well as place more emphasis on strength and flexibility training.

The majority of injuries (69%) are sustained during matches; this could be the result of a number of factors, e.g.: (i) sudden increase in the length of bowling spell(s) during a match, as opposed to the amount of bowling usually performed in the nets; (ii) attempts to bowl too fast; (iii) captains over-bowling a bowler who is performing well; (iv) a bowler returning for subsequent bowling spells, often without adequate recovery from a previous bowling spell; (v) a sudden increase in the number of matches played; (vi) inadequate warming up before bowling, batting and fielding; and (vii) return to match play too soon after an injury. A further explanation for the higher incidence of injuries in matches could be that the players are more likely to try that little bit harder in a match than a practice, predisposing them to more injuries.

Of concern to cricket coaches, administrators and players is the high number of injuries during that part of the season, particularly at provincial level, is comparatively short; this causes players to rush back to play in matches too soon after an injury. This situation could be exacerbated by the lack of adequate training and rehabilitation.

This study shows that injuries tend to occur during specific stages of the season. The many pre-season friendly matches and the fact that the first half of the season is made up predominantly of limited-overs cricket, particularly at provincial level, could be partly to blame for the high number of injuries during that part of the season. A large percentage of players do no off-season training (60.1%) and then go into concentrated training sessions early in the season. This, combined with the fact that limited-overs cricket requires a greater physical work-rate from the players when fielding and running between the wickets, makes them more susceptible to injury. The players who took part in off-season training were better able to adapt to these early season demands and were thus at less risk of injury. Furthermore, the increase in the number of injuries towards the end of the season could be a result of the many league and provincial finals in the various competitions. The slight decrease in the number of injuries suffered during January might be the result of the break from club fixtures over the holiday season, as well as the increased number of 3-day first-class games which are not as physically demanding as the limited-overs games.

The incidence and nature of injuries sustained by club and provincial cricketers during a season have been presented. The high incidence of severe injuries recorded needs to be addressed by those involved in cricket — the players, coaches, administrators and medical personnel. Many of the injuries were either a recurrence of an injury from the previous season, or occurred again during the season. Bowlers, especially fast to medium-fast
bowlers, were found to be the most susceptible to injury, with injuries to the upper and lower extremities the most serious in terms of the number of days that a cricketer was not able to practise or play. The majority of injuries occurred fairly regularly in matches throughout the season, with an increase during those parts of the season where there was a lot of cricket played.

Further investigations into cricket injuries need to expand on this study by collecting data over more seasons. In particular the number of injuries in relation to the number of hours spent playing should be assessed. Epidemiological data should also be collected on injuries in young cricketers. The personnel involved in the treatment and rehabilitation of injured cricketers need to be aware of the large number of recurrent injuries. Finally, administrators and coaches need to be aware that injuries occur mainly in matches and during periods in the season when a lot of cricket is played.

REFERENCES

Risk factors for uveitis in sarcoidosis

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Abstract

Uveitis is a potentially sight-threatening complication of sarcoidosis. The object of this study was to determine which patients with sarcoidosis are at greater risk of developing uveitis. We retrospectively assessed 136 patients with clinical, radiological and histological features of sarcoidosis. Of the 48 patients (35.3%) with signs of intraocular inflammation, 28 had anterior uveitis, 2 had posterior uveitis and 18 had signs of panuveitis. When patients with uveitis were compared with patients without ophthalmic involvement, no significant demographic, clinical or laboratory differences were found. On linear discriminant analysis, however, the presence of ocular inflammation could be predicted in 32 out of 48 patients (66.6%); age at diagnosis and an elevated serum calcium level were relative risk factors. Awareness of the high incidence of uveitis and education of those at greater risk may result in earlier diagnosis and treatment of ocular inflammation.

Sarcoioidosis is a chronic granulomatous disease of unknown aetiology. The clinical manifestations of the disorder depend on the organ system involved in the granulomatous process. The disease particularly causes changes in the chest, which range from mediastinal lymph node enlargement to parenchymal infiltration and severe restrictive and obstructive lung disease. Extra-thoracic sarcoidosis most commonly involves the lymphoreticular system, the skin and the eyes.

Ocular disease is found in 22 - 63% of patients, and there is a wide spectrum of inflammatory conditions. The commonest of these are acute or chronic anterior uveitis and panuveitis. Conjunctival granulomas, follicular conjunctivitis, episcleritis, retinal peripheral, choroidal granulomas, exudative retinal detachment, papillitis and lacrimal gland infiltration with keratoconjunctivitis sicca have also been described.

This report presents the clinical and laboratory findings in 48 patients with uveitis associated with sarcoidosis. To determine the factors that may increase the risk of ocular inflammation, these 48 patients were compared with a group of 72 patients with sarcoidosis in whom ocular disease was not present.

Subjects and methods

A retrospective review of 136 patients with sarcoidosis was undertaken. They had been examined in the Ophthalmology Department at Groote Schuur Hospital during the 17-year period August 1974 - August 1991. These patients had been referred for ophthalmic evaluation by the Respiratory Clinic. During this period, not all patients with sarcoidosis seen in the Respiratory Clinic underwent ophthalmic examination and patients were more likely to have been referred because of eye symptoms.

The diagnosis of sarcoidosis was made on the basis of typical clinical, radiographic and laboratory features, and compatible histological findings. Diseases such as tuberculosis and fungal infection were excluded by spe-