

The seasonal incidence and nature of injuries in schoolboy cricketers

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This study investigated the seasonal incidence and nature of injuries sustained by schoolboy cricketers.

Questionnaire responses of 116 cricketers were obtained (59,2% of the sample). The overall seasonal incidence of injuries in all the players was 49,0%. The most common sites of injury were the back and trunk (33,3%), upper limbs (24,6%), and lower limbs (22,8%). The seasonal incidence of injuries in bowlers (47,4%) was found to be greater than in batsmen (29,8%) and fielders (22,8%), although not significantly so. The injuries occurred with equal frequency during matches (45,6%) and practices (47,4%), particularly during the early and later parts of the season; 29,8% of the injuries were recurrent injuries from the previous season. Of the total injuries sustained, 36,8% recurred during the same season. The pattern of injuries in the schoolboy cricketers was similar to that in the club and provincial cricketers. Although cricket injuries have not reached serious proportions, cognisance needs to be taken of these patterns so that the risks of injury can be reduced even further.

S Afr Med J 1995; **85**: 1182-1184.

Cricket has traditionally been regarded as relatively injury-free, although it has been classified as having a 'moderate' injury risk.¹ However, numerous case reports and studies on the incidence of injuries in adult cricketers indicate that injuries in cricket players are increasing rapidly. The major areas of concern are impact injuries to the head, face and fingers²⁻⁸ and injuries to the back.⁹⁻¹³ In addition to technical skill, the modern cricketer requires a high level of fitness, which makes him susceptible to overuse injuries as a result of repetitive training.^{2,8,10,11}

The dramatic increase in sports participation has resulted in many more 'adult-type' injuries in children.¹⁴ However, no studies of schoolboy cricket players have been conducted; specific data on the incidence and the nature of injuries incurred have come from case studies and studies assessing specific injuries. These studies have focused mainly on back injuries caused by fast bowling.^{9-11, 15-17}

The high incidence of back injuries in young bowlers is not the result of a single aetiological factor, but rather of a combination of factors which may predispose these players to injuries. These include inadequate physical and physiological factors,⁹ postural defects,⁹ high physical

demands,^{9,15} biomechanical aspects of the bowling technique,^{9,16,17} escalation in training frequency and duration of bowling spells in matches^{9,15} and repetitive movements.¹⁵ The only reported case of injury to a young batsman was a traumatic splenic rupture.¹⁸

The aim of this investigation was therefore to determine the seasonal incidence of common injuries sustained by schoolboy cricketers. A secondary aim was to identify possible risk factors associated with these injuries.

Methods

The sample population consisted of 196 cricket players from schools in the Border region, and Eastern and Western Cape. These players all represented their school's first team during the 1989 - 1990 or 1990 - 1991 seasons. The data were collected during the off-season. A questionnaire was handed out to all the players by the team coach. It was designed to obtain the following information: (i) anatomical site of injury; (ii) month of injury during the season; (iii) cause of injury; (iv) whether it was a recurrence of a previous injury; (v) whether the injury had recurred during the season; and (vi) biographical data (age, body mass and height). The accuracy of the player's response to the questions depended on his understanding and interpretation of his medical practitioner's diagnosis. The return rate for the questionnaires was 59,2% (116 players). As this is a high response for a questionnaire study,¹⁹ a second questionnaire was not sent out and non-respondents were not contacted.

An injury, which could be an acute or an overuse injury, was defined as any physical damage that occurred during a match, practice or training session and which prevented the player from completing that particular 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 as follows according to the anatomical region injured: (i) head, neck and face; (ii) upper limbs; (iii) back and trunk; and (iv) lower limbs. Injuries were classified according to whether they were sustained during batting, bowling or fielding. To allow for comparisons between the phases of play during which the injuries were sustained, the number of injuries in each phase was then expressed as a percentage of the total number of injuries. The time of the season when the injury occurred was recorded. The off-season was defined as that part of the season when no specific cricket practice or training took place. The pre-season, a 2-month period, was that part of the season when specific cricket practice and training was undertaken before the commencement of matches. The season, a 6-month period, was defined as the period when matches were played. No medical records or record of other sports played were obtained from the injured players. The Sample Statistical Analysis System was used to compute univariate statistics and frequency distributions.

Results

The respondents consisted of 50 all-rounders, 25 batsmen, 24 bowlers and 17 wicket-keepers. The mean (\pm SD) age, body mass and height of the cricket players was 17,6 \pm 1,01 years, 71,9 \pm 9,11 kg and 179,7 \pm 10,47 cm, respectively.

The training histories of the respondents are depicted in Fig. 1. During the off-season none of the respondents spent any time practising or training specifically for cricket. In the pre-season period 75,9% and 24,1% respectively of the respondents spent 1 - 4 hours and more than 4 hours a week practising and training. During the season 72,4% and 21,6% of the respondents spent 5 - 8 hours and more than 8 hours per week respectively practising and training for cricket.

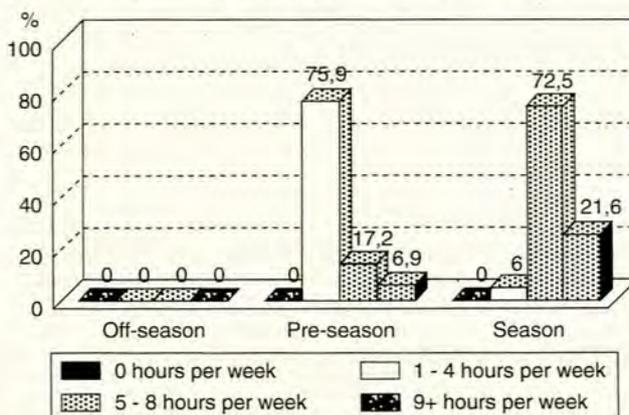


Fig. 1. Training history of the cricketers.

A total of 57 injuries was reported by the respondents. Eight players sustained either two or three injuries during the season. The seasonal incidence of cricket injuries in this group was thus 49,0%. As reported in other studies,^{1,8,11-14} the most common sites of injury were back and trunk (33,3%), upper limbs (24,6%), lower limbs (22,8%) and head, neck and face (19,3%) (Table I). The back and trunk injuries were predominantly muscle and ligament injuries (28,1%), while the upper limb injuries mainly involved the fingers (15,8%) and had occurred as a result of their being struck by the ball during fielding, catching and batting. Lower limb injuries comprised ten muscle strains and four sprained ankles.

Table I. Anatomical site and phase of play during which injuries occurred (%)

	Bowling	Batting	Fielding	Total
Head, neck and face	1,8	17,5	—	19,3
Upper limbs	5,3	1,8	17,5	24,6
Back and trunk	26,3	7,0	—	33,3
Lower limbs	14,0	3,5	5,3	22,8
Total	47,4	29,8	22,8	100

Bowling (47,4%) accounted for the majority of all injuries sustained by the respondents. Most bowling injuries involved the back (26,3%) and the lower limbs (14,0%). Fielding injuries (22,8%) were predominantly injuries to the upper limbs (17,5%). The batting injuries (29,8%) were predominantly impact injuries to the head and face (17,5%) (Table I).

Batting injuries were mostly impact injuries to the head and face as a result either of the ball's deflecting off the bat or the batsman's ducking into the ball. In 7 of these cases no helmet was worn when the injury occurred. Only one injury resulted from a player being struck on the hand by a fast bowler, while two lower limb injuries occurred while players were running between the wickets in a match.

The recovery time from injuries sustained in the different anatomical areas is shown in Table II. Fourteen per cent of the injuries sustained by the respondents were severe enough to prevent their return to play for more than 21 days, while 63,2% and 22,8% of those injured were not able to practise or play for 1 - 7 days and 8 - 21 days, respectively.

Table II. Recovery time from injury (%)

	1 - 7 days	8 - 21 days	> 21 days
Head, neck and face	19,3	—	—
Upper limbs	15,8	7,0	1,8
Back and trunk	17,6	8,8	7,0
Lower limbs	10,5	7,0	5,2
Total	63,2	22,8	14,0

Table III details the number of injuries sustained in the four anatomical regions during matches alone, practices alone and matches and practices. A similar proportion of injuries occurred during matches (45,6%) and practices (47,4%).

Table III. Injuries sustained during matches and practices (%)

	Match	Practice	Match/ practice	Total
Head, neck and face	12,3	7,0	—	19,3
Upper limbs	12,3	12,3	—	24,6
Back and trunk	14,0	15,8	3,5	33,3
Lower limbs	7,0	12,3	3,5	22,8
Total	45,6	47,4	7,0	100

The total number of injuries in each month during the pre-season period and the season is shown in Fig. 2. Most of the injuries occurred in the month before the season began, the first month of the season and late in the season.

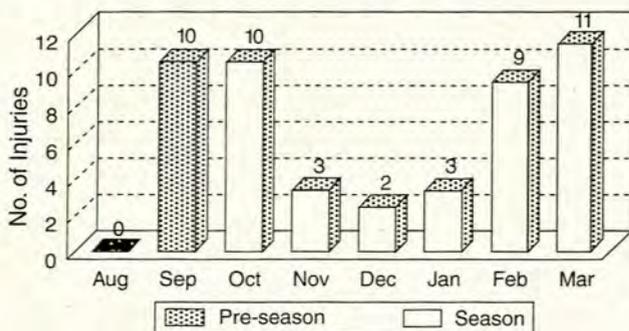


Fig. 2. Month of occurrence of injury (N = 57). (Eight subjects did not indicate when the injury occurred.)

Discussion

The principal finding of this study was that cricket injuries are common in schoolboy cricketers (49 per 100 players per season). Most injuries were to the back and trunk, and mainly bowlers were affected. Injuries occurred equally during matches and practices, and 63,2% of injuries prevented the cricketer from returning to play for 1 - 7 days.

The high seasonal incidence of injuries in the cricketers is similar to that found in club and provincial cricketers.⁸

However, a limitation of both studies is that the injured players may be more likely to respond to a questionnaire than non-injured players, which could account for the high reported incidence of injuries in the responders.

Injuries occurred mainly in bowlers (47,4%) and were more common in fast to medium-fast bowlers. This is consistent with the findings of other researchers.^{1,8,13}

Of concern to cricket coaches, administrators and those involved in training and rehabilitation of injured cricketers is the time lost through injury. Of the injuries sustained, 29,8% were a recurrence of an old injury while 36,8% of the new injuries recurred during the same season. A possible explanation for this may be that the season is comparatively short, causing players to return to play too soon after an injury.

This study shows that injuries tend to occur during specific stages of the season. No players do any off-season training. They then proceed to concentrated fitness and skill training sessions during the early part of the season, which makes them susceptible to injury. Like the club and provincial cricketers,⁸ an increase in the number of injuries occurred towards the end of the season, which would appear to be a result of the concentration of matches at this time, and players' not having fully recovered from previous injuries. The decrease in the number of injuries during November, December and January would be the result of the break from school fixtures over the school examination and holiday period.

The high incidence of injuries needs to be addressed by the players, coaches, teachers, administrators and medical personnel involved with cricket. Bowlers, especially fast to medium-fast bowlers, were found to be most susceptible to injury. Injuries to the back and trunk are the most serious as measured by the number of days that a cricketer was not able to practise or play. The majority of injuries occurred fairly regularly in matches and practices throughout the season, with an increase during the parts of the season when there was a lot of cricket being played.

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Accepted 21 July 1994.