A SURVEY OF THE INJURIES OCCURRING IN NATIONAL COLLEGIATE ATHLETIC ASSOCIATION SOCCER IN 1958

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Donald Frederick Walter, Jr.

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A SURVEY OF THE INJURIES OCCURRING IN NATIONAL COLLEGIATE ATHLETIC ASSOCIATION SOCCER IN 1958

by

Donald Frederick Walter, Jr.

AN ABSTRACT OF A THESIS

Submitted to the College of Education of Michigan
State University of Agriculture and Applied Science
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MASTER OF ARTS

Department of Health, Physical Education, and Recreation

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Approved Randolph W. Webster

ABSTRACT

Title of Study. A Survey of the Injuries Occurring in National Collegiate Athletic Association Soccer in 1958.

Statement of the problem. The purpose of this study is to collect and analyze data pertaining to the injuries which occur to the members of soccer teams which are members of the National Collegiate Athletic Association during the season of 1958.

Methodology. Information was obtained by questionnaires sent to all the soccer teams which are members of the National Collegiate Athletic Association. The data were compiled and tabulated, into percentages, and arranged into tables.

Some of the significant findings. Listed are a summary of the findings in this study:

1. Injuries did not occur frequently. One injury occurred approximately every ten hours and the mean number of injuries per team was seven.

2. The majority of the injuries occurred below the pelvis (79.2%), were caused by being kicked (25.2%) and occurred to players who were kicking the ball (39.4%).

3. Physical contact, although it is not an objective of soccer, was responsible for 58.2% of the injuries.

4. Many of the injuries (54.6%) were the type which may become chronic. These were sprains, strains and dislocations which most often occurred to the ankle, knee and upper leg.

Suggestions for further study.

1. The study should be repeated with the cooperation of an organization such as the N.C.A.A. or the National Soccer Coaches' Association of America. This would insure a larger return of questionnaires.

2. A repeated study should employ a single questionnaire for each injury. This questionnaire should include questions pertaining to type of conditioning program, type of shoes and shinguards used, if the injury is a reoccurrence of a previous one, the use of ankle wraps, the length of time the player is forced to withdraw from activity due to the injury and the date on which the injury occurs.

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The author would like to express his appreciation to Dr. Randolph W. Webster for his interest, advice and criticisms during the preparation of this study. Appreciation is also extended to the coaches who gave so generously of their time in answering the questionnaires.

DEDICATION

This thesis is respectfully dedicated to my wife, Pauline, and to my college soccer coach, Mr. John R. Eiler.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

The game of soccer is the most popular sport in the world and is becoming increasingly popular as an intercollegiate sport in the United States. It is an activity which is comparatively inexpensive to operate and it is not as restricted to individuals with specialized physical characteristics as many of our sports are. Soccer is a vigorous activity which can contribute much to the participant physically, mentally, and socially. Because of the vigorous nature of soccer and the contact which is involved there is an inherent danger of injury. There is very little information about the injuries which occur in soccer played on the intercollegiate level in this country. It is hoped that this thesis will serve as a means of providing some information.

I. THE PROBLEM

Statement of the problem. The purpose of this study is to collect and analyze data pertaining to the injuries which occur to the members of soccer teams which are members of the National Collegiate Athletic Association during the season of 1958.

Importance of the study. Although the game of soccer may contribute much to the body and character of its participants, because of its nature, injuries occur. In order to increase the benefits made by this activity it is necessary to decrease the number of injuries that

occur as a result of participation. In order to prevent injuries from occurring it is necessary to know what kind occur and what causes them. It is hoped that the data found in this research may contribute information regarding soccer injuries which may aid in the prevention of future injuries.

The source of data. The members of the soccer teams listed in the Official N. C.A. A. Soccer Guide for 1958 served as subjects in this study.

Limitations of the study. There are some limitations to this study.

A questionnaire was used to obtain the data and it was necessary for the author to accept the word of the coaches that their injury reports were accurate.

Many of the questionnaires were unreturned and some were received which were completed incorrectly, it was therefore impossible to obtain information about many of the subjects in this study.

Players will sometimes receive injuries which are not detected until after the game or practice session and will be unable to recall what caused the injuries.

II. DEFINITIONS OF TERMS USED

Injury. That condition of the player resulting from activity in game or practice, recognized by the coach or trainer, which requires medical treatment or which forces the player to withdraw from activity for at least one day.

National Collegiate Athletic Association Soccer. Any game or practice in which members of the soccer teams listed in the Official N. C. A. A. Soccer Guide for 1958 participated.

CHAPTER II

REVIEW OF THE LITERATURE

There have been many books and articles written about soccer. This literature usually deals with skills, techniques, strategy and conditioning. While there is some material available regarding the injuries which occur as a result of playing the game there is little specific information regarding the injuries which occur in collegiate soccer in this country.

According to Francis J. Cavanaugh,[1] trainer for the 1936 U. S. Olympic Soccer Team "In order of frequency we have (a) Sprains of the ankle; (b) Contusions of the tibia; (c) Ligament strains and tears of the knee joint; (d) "Charley Horse" of the quadraceps ext. group; (e) Pulled ham string tendons; (f) Contusions and strains of the gastrocnemius; (g) Blister trouble; (h) "Strawberries"; (i) Synovitis of the knee; (j) Displaced semilunars of the knee".

Lloyd, Deaver, and Eastwood[2] state that although the bodily contact involved in soccer would give the impression that the accident incidence would be high that this is not true. They list strains, sprains, wounds and bone injuries in this order of frequency with the majority of these injuries occurring to the leg and foot and pelvis and thigh.

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[1]Francis J. Cavanaugh, "Training for Soccer", Official N.C.A.A. Soccer Guide, 1948, p. 20.

[2]Frank S. Lloyd, George G. Deaver and Floyd R. Eastwood, Safety in Athletics, New York: W.B. Saunders Company, 1936, pp. 70-72.

Soccer rates as a mildly hazardous activity according to Lloyd[3]. The Statistical Bulletin of the Metropolitan Life Insurance Company[4] states that "in soccer only one death on the field - from a heart attack - has occurred in four decades".

Although soccer in this country is practically free from fatal accidents and injuries which are considered very serious McDougall[5] points out that repeated minor sprains of capsular attachments of the ankle joint, and repeated compression injuries of the capsular attachments of the bones against each other when the ankle is forcibly dorsiflexed and plantar-flexed may cause bony out-growths which occur along the tibial margins beneath the malleoli, especially the medial one. The degree of trauma to the ankles, the weight of the player, and frequency of participation affect the age at which this traumatic arthritis appears. In backs, who must kick with great force in order to obtain long kicks, these bony out-growths are more severe. Although the modified figure of eight bandage may prevent joint and ligament sprains, to be effective it would interfere with function and therefore would not be practical for soccer.

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[3]Frank S. Lloyd, Safety in Physical Education in Secondary Schools, New York: National Bureau of Casualty and Surety Underwriters, 1933, p. 49.

[4]"Hazards in Competitive Athletics", Statistical Bulletin, Metropolitan Life Insurance Company, Vol. 35, June 1954, p. 3.

[5]A. McDougall, "Footballer's Ankle", The Lancet, (Dec. 10, 1955), pp. 1219-1220.

CHAPTER III

METHODOLOGY

The injuries which occured in N. C. A. A. soccer are being surveyed in this study. This chapter will deal with the method of compiling data for the study. It deals with the selection of subjects, devising and mailing of the questionnaires, the tabulation of the data and the statistical methods used in the computation of the data.

Selection of the subjects. Each year the National Collegiate Athletic Association publishes an Official N. C. A. A. Soccer Guide containing the records of its member schools for the previous season. The players of each college team listed in this publication served as subjects for the study.

Devising of the questionnaire. In order to survey each of the one hundred and sixty-nine soccer teams selected the author devised a questionnaire on which the coaches of the teams being surveyed were to record the information regarding the injuries to the players on his team as they occurred.

Techniques of mailing. When all of the subjects for this study were selected, the name of each coach and the address of his college were written by the author on an envelope which contained a questionnaire, (Appendix A) and a letter explaining the study (Appendix B). A self addressed, stamped envelope was also enclosed in this envelope.

The questionnaires were sent out September, 1958. No follow up letter was sent because the information pertaining to each injury was to be recorded when it occurred.

Percentage of returns. The total number of schools included in the survey was 169. Forty-three colleges returned questionnaires which were correctly completed (a 25.4% return).

Tabulation of results. When a sufficient amount of time elapsed after the close of the college soccer season and when questionnaires were no longer being returned the information from each questionnaire was tabulated.

Analysis of data. The information received on the questionnaires was tabulated and analyzed to determine (1) how frequently injuries occur; (2) what the most frequent causes of injuries are; (3) the parts of the body most frequently injured; (4) the types of injuries which most frequently occur; (5) the relationship between the types of injuries and the parts of the body injured; (6) the relationship between the injuries and the activities engaged in by the injured players at the time of the injuries; (7) the relationship between the players positions and the injuries; (8) the relationship between the injuries and the causes of the injuries; (9) if most injuries occur in games or practice. Percentages were then computed and the information was arranged into tables.

CHAPTER IV

ANALYSIS OF THE DATA

This study was undertaken to collect data pertaining to the injuries which occurred in N.C.A.A. soccer during the 1958 season. A report of the responses from the coaches of each team to the questionnaire sent to all teams listed in the 1957 Official Soccer Guide (43 of 169, 25.4% were returned correctly completed) is given in this chapter.

The data was analyzed to determine: (1) how frequently injuries occur; (2) what the most frequent causes of injuries are; (3) the parts of the body most frequently injured; (4) the types of injuries which most frequently occur; (5) the relationship between the types of injuries and the parts of the body injured; (6) the relationship between the injuries and the activities engaged in by the injured players at the time of the injuries; (7) the relationship between the players' positions and the injuries; (8) the relationship between the injuries and the causes of the injuries; (9) if most injuries occur in games of practice.

Frequency of injury. Forty-three colleges returned questionnaires which were used in this study. There were 1107 soccer players who were members of these teams. The questionnaires reported 309 injuries. Some of these injuries may have been sustained by the same player.

The 43 teams which responded played 411 games and conducted 1335

practices. The length of a college soccer game played under N.C.A.A. rules is 88 minutes and the mean length of practice reported in the questionnaires was one hour and forty-five minutes. The total number of minutes in which the 309 injuries occurred was 187,909. This indicates that in the college soccer which was played and reported in the questionnaires one injury occurred each 608 minutes.

The mean number of injuries per team was 7. The range was from 1 to 15.

Causes of Injury. Table I has been constructed to show the frequency of the various causes of injury. Seventy-eight (25.2%) of the 309 injuries reported on the questionnaires were caused by being

TABLE I

CAUSES OF INJURIES

Cause	Number
Kicked	78
Charged	35
Tackled	31
Field	28
Dangerous play	19
Tripped	12
Equipment	11
Obstructed	5
Other	90
Total	309

kicked. Thirty-five (11.3%) were caused by being charged. Being tackled accounted for 31 (10%) of the injuries. The other causes in order of frequency were field (28), dangerous play (19), tripped (12), equip-

ment (11), obstructed (5) and other (90).

One hundred and eight (58.2%) of the injuries were caused by physical contact. Equipment and the field accounted for 39 (12.6%) of the injuries. Some of these causes included the ball, poorly fitting shoes, uneven ground, and the goal posts.

The ninety (29.1%) other causes include the injuries for which no cause was reported, and such causes as straining and self-injury, and not warmed up. Most of these injuries were strains and sprains.

Parts of the body injured. The frequency of injury to the various parts of the body is shown in Table II. Of the 309 injuries, 245 (79.2%)

TABLE II

PARTS OF THE BODY INJURED

Part	Number
Toe	8
Foot	32
Ankle	75
Lower leg	37
Knee	39
Upper leg	54
Pelvis	5
Back	9
Chest	4
Shoulder	6
Elbow	3
Lower arm	2
Wrist	4
Hand	2
Finger	7
Neck	2
Face	11
Head	9
Total	309

occurred below the pelvis. There were 20 (6.4%) injuries to the face and head. Injuries to the lower extremities are to be expected in a sport in which running and kicking play such an important role. The most frequently reported areas injured were ankle (75), upper leg (54), knee (39), lower leg (37), and foot (32).

Types of injury. Table III shows the types of injuries reported on the questionnaires. Of the 309 injuries 113 (36.5%) were contusions (89) and wounds (24). Sprains (85), strains (84), fractures (15) and dislocations (10) account for 194 (62.7%) of the 309 injuries. Two head injuries were reported which were not referred to as any type.

TABLE III

TYPES OF INJURIES

Type	Number
Contusions	89
Strains	85
Sprains	84
Wounds	24
Fractures	15
Dislocations	10
Unknown	2
Total	309

The relationship between the type of injury and the part of the body injured. In Table IV the relationship between the type of injury and the part of the body injured is shown. Forty-seven (55.9%) of the sprains occurred to the ankle. The knee was the other part of the body which was usually sprained (12). Strains were most often upper leg

TABLE IV

THE RELATIONSHIP BETWEEN THE TYPES OF INJURIES AND THE PARTS OF THE BODY INJURED

Part	Sprain	Strain	Dislocation	Fracture	Contusion	Wound
Toe	2		2		3	1
Foot	5	5			13	8
Ankle	47	10		3	14	1
Lower leg		14		4	17	2
Knee	12	15	4		7	1
Upper leg	5	30			18	1
Pelvis		2			2	1
Back	4	3			2	
Chest		3			1	
Shoulder	1		2	1	2	
Elbow		1		2		
Lower arm	1				1	
Wrist	1			1	2	
Hand	1					1
Finger	4		2			1
Neck	1		1			
Face		1		3	4	3
Head					3	4

strains (30). The knee (15), lower leg (14), ankle (10) and foot (6) were other areas where strains frequently occurred. The great majority of strains occurred below the pelvis (88.2%). Of the 10 dislocations reported 4 occurred to the knee with the toe, shoulder and finger each accounting for 2. The number of fractures occurring below the pelvis were seven. Four of these were lower leg fractures and three were ankle fractures. Fractures to the face (3), elbow (2), neck (1), wrist (1) and shoulder were also reported. Of the 15 fractures 8 occurred above the waist. The majority of the 89 contusions (18) occurred to the upper leg. The lower leg (17), ankle (14), foot (13) and knee (7) were other areas where contusions were likely to happen.

The areas below the pelvis were the site of 80.8 percent of all contusions. There were seven contusions of the head and face. The foot was the part of the body where most of the wounds were reported. The majority of these 8 foot wounds were blisters. Seven of the 24 wounds were in the area of the head and face.

The relationship between the injuries and the activities engaged in by the injured players at the time of the injuries. The relationship between the injuries and the activities engaged in by the injured players at the time of the injuries is shown in Table V. More injuries occurred to players who were shooting than to those who engaged in other activities. The most often reported injuries of the 49 which resulted when a player was shooting were upper leg strains (15), knee sprains (5), ankle sprains (5), and upper leg contusions (4). Running was the next most hazardous activity with 47 injuries occurring to players who were running. Ankle sprains (14), lower leg strains (6), upper leg strains (5), and foot wounds were the most frequent injuries sustained by running players. Kicking to clear the ball was the activity 43 players were engaged in when they were injured. The most prevalent injuries to these players who were clearing the ball were upper leg strains (8), ankle sprains (6), foot contusions (4) and lower leg contusions (4). Forty-two players were tackling when they were injured. Ankle sprains (7), lower leg contusions (5), upper leg contusions (4) and foot contusions (3) were the majority of the injuries to running players. There were 31 players injured while dribbling. Five of these players suffered upper leg contusions. Ankle contusions (4) and ankle wounds (3) were other frequently observed injuries. Thirty of the

TABLE V

THE RELATIONSHIP BETWEEN THE INJURIES AND THE ACTIVITIES ENGAGED IN BY THE INJURED PLAYERS AT THE TIME OF INJURY

Injury	Kicking Shot	Kicking Pass	Kicking Clear	Running	Dribbling	Tackling	Trapping	Heading
Toe sprain	1		1					
Toe disclocation			2					
Toe contusion		3						
Toe wound		1						
Foot sprain	1	1	1					
Foot strain		2	1			2		1
Foot contusion	2	3	4			3		
Foot wound				5	3			
Ankle sprain	5	6	6	14	4	7	2	
Ankle strain	2	1	2	2	2			
Ankle fracture		1						
Ankle contusion	2	4	2		4	2		
Ankle wound					1			
Low. leg strain	1		3	6	1	2		
Low. leg fracture	1		1	1		1		
Low. leg contusion	3	2	4		1	5		
Low. leg wound		1			1			
Knee sprain	5	2			1	2		
Knee strain	2	1	2	3	2	1		1
Knee dislocation	1		1		1			
Knee contusion	1	1	1	1	1	1		
Knee wound				1				
Up. leg sprain			2	1		1		
Up. leg strain	15		8	5	1			
Up. leg contusion	4	1	1		5	4	1	
Up. leg wound						1		
Pelvis strain						1		
Pelvis contusion							1	
Pelvis wound								
Back sprain				1		1		
Back strain			1		1			1
Back contusion	1							
Chest strain				2				1
Chest contusion					1			
Shoulder sprain				1				
Shoulder dislocation			1					
Shoulder fracture				1				
Shoulder contusion					1	1		
Elbow strain								
Elbow fracture								
Low. arm sprain				1				
Low. arm contusion								
Wrist sprain	1							
Wrist fracture	1							
Wrist contusion						1		
Hand sprain								
Hand wound								
Finger sprain								
Finger dislocation								
Finger wound								
Neck sprain						1		
Neck fracture								
Face strain						1		
Face fracture				1				1
Face contusion						1		2
Face wound						1		2
Head other		1						1
Head contusion								1
Head wound				1				2
Total	49	30	43	47	31	42	4	13

TABLE V (cont.)

Injury	Charging	Obstructing	Dangerous play	Catch Goalie	Strike Punch Goalie	Kick Throw Goalie	Practice drill	Other
Toe sprain								
Toe dislocation								
Toe contusion								
Toe wound								
Foot sprain	1					1		
Foot strain								
Foot contusion			1					
Foot wound								
Ankle sprain		1		1		1		
Ankle strain							1	
Ankle fracture							1	1
Ankle contusion								
Ankle wound								
Low. leg strain						1		
Low. leg fracture								
Low. leg contusion					1			1
Low. leg wound								
Knee sprain							1	1
Knee strain			1					2
Knee dislocation							1	
Knee contusion	1							
Knee wound								
Up. leg sprain			1					
Up. leg strain								1
Up. leg contusion	1				1			
Up. leg wound								
Pelvis strain	1							
Pelvis contusion				1				
Pelvis wound				1				
Back sprain				1			1	
Back strain								
Back contusion				1				
Chest strain								
Chest contusion								
Shoulder sprain								
Shoulder dislocation	1							
Shoulder fracture								
Shoulder contusion								
Elbow strain						1		
Elbow fracture	1			1				
Low. arm sprain								
Low. arm contusion	1							
Wrist sprain								
Wrist fracture								1
Wrist contusion					1			
Hand sprain				1				
Hand wound				2			2	
Finger sprain	2							
Finger dislocation				1				
Finger wound								1
Neck sprain								
Neck fracture					1			
Face strain								
Face fracture								
Face contusion	1							
Face wound								
Head other				2				
Head contusion								
Head wound								
Total	10	1	4	12	4	4	7	8

injured players were passing the ball when they were injured. Of these 30 injuries there were 6 sprained ankles, 4 ankle contusions, 3 foot contusions and 3 toe contusions. The activities in which goalies were engaged resulted in 20 injuries to goalies. Twelve of these injuries occurred while catching the ball. Striking or punching and kicking or throwing each were activity in which 4 goalies were engaged at the time of injury. Heading was the activity in which 13 players were injured. Face (5) and head (4) injuries were the most frequent sustained while heading. Two of these face injuries were fractures. No frequent injuries occurred as a result of engaging in charging, practice drills, trapping, dangerous play and obstructing. Eight of the injured players had no activity reported for them at the time of injury.

The relationship between the injuries and the injured players' positions. The relationship between the injuries and the injured players' positions is shown in Table VI. Most injuries occurred to center forwards (97) followed in order by half backs (76), out sides (55), full backs (53) and goalies (22). The most frequent injuries occurring to all positions, except goalies, were sprained ankles and upper leg strains.

The relationship between the injuries and the causes of the injuries. Table VII shows the relationship between the injuries and their causes. Being kicked most often resulted in contusions of the ankle (13) and lower leg (13). Ankle sprains were the result when 9 players were kicked. Foot contusions (6) and upper leg contusions (5) were other frequent results of being kicked. Five of the 35 injuries caused by charging were upper leg contusions. Knee contusions (3) and

TABLE VI

THE RELATIONSHIP BETWEEN THE INJURIES AND

THE INJURED PLAYERS POSITIONS

Injury	Goalie	Full Back	Half Back	Outside	Inside and C.F.	Other
Toe sprain		1			1	
Toe dislocation		1	1			
Toe contusion		1		2		
Toe wound					1	
Foot sprain	1	2			5	2
Foot strain		1	2		3	
Foot contusion		4	4	1	4	
Foot wound		1	2	2	3	
Ankle sprain	2	6	15	13	11	
Ankle strain		1	3	1	5	1
Ankle fracture		2				1
Ankle contusion		1	3	3	6	
Ankle wound			1			
Low. leg strain	1	2	3	4	3	1
Low. leg fracture			1	1	2	
Low. leg contusion	1	2	4	4	6	
Low. leg wound			3			
Knee sprain		1	5	3	3	
Knee strain		3	4	3	5	
Knee dislocation		1		1	2	
Knee contusion		1	1	3	2	
Knee wound		1				
Up. leg sprain	1	2	1		1	
Up. leg strain		6	7	6	10	1
Up. leg contusion	1	4	3	1	9	
Up. leg wound				1		
Pelvis strain		1	1			
Pelvis contusion	1		1			
Pelvis wound	1					
Back sprain	1		2		1	
Back strain		1			2	
Back contusion	1	1				
Chest strain			2	1		
Chest contusion				1		
Shoulder sprain					1	
Shoulder dislocation		1		1		
Shoulder fracture					1	
Shoulder contusion		1			1	
Elbow strain	1					
Elbow fracture	1				1	
Low. arm sprain			1			
Low. arm contusion					1	
Wrist sprain					1	
Wrist fracture				1		
Wrist contusion		1			1	
Hand sprain	1					
Hand wound	1					
Finger sprain	2				2	
Finger dislocation		1			1	
Finger wound	1					
Neck sprain			1			
Neck fracture					1	
Face strain			1			
Face fracture	1	1	1			
Face contusion			1	1	2	
Face wound			1		2	
Head other		1		1		
Head contusion	2				1	
Head wound	1		2		1	
Total	22	53	76	55	97	6

TABLE VII

THE RELATIONSHIP BETWEEN THE INJURIES AND

THE CAUSES OF THE INJURIES

Injury	Kicked	Charged	Tackled	Dangerous Play	Obstructed	Tripped	Field	Equipment	Other
Toe sprain								2	
Toe dislocation				1					1
Toe contusion	1							1	1
Toe wound	1							1	1
Foot sprain	2	1				1			1
Foot strain	2		1						3
Foot contusion	6		2	1		1	1		2
Foot wound	1		2			1		4	
Ankle sprain	9	3	6	1	1	4	13		10
Ankle strain		2	4				1		3
Ankle fracture	1								2
Ankle contusion	13								1
Ankle wound			1						
Low. leg strain	2	2	2	1			1		6
Low. leg fracture		1	1	1					1
Low. leg cont.	13	1		1					2
Low. leg wound	1								1
Knee sprain	2		3				2		5
Knee strain	3		3	2			2		5
Knee dislocation		1	1						2
Knee contusion	4	3							
Knee wound									
Up. leg strain		1	1	1			1		1
Up. leg strain	5	2	0	2		2	4		15
Up. leg cont.	5	5	1	4	1				2
Up. leg wound		1							
Pelvis strain		1							1
Pelvis contusion		1						1	
Pelvis wound		1							
Back sprain		1				1	1		1
Back strain		1				1			1
Back contusion	1		1						
Chest strain	1								2
Chest contusion		1							
Shoulder sprain		1							
Shoulder dislocation					1				1
Shoulder fracture		1							
Shoulder cont.	1					1			
Elbow strain									1
Elbow fracture		1		1					
Low. arm strain									1
Low. arm contusion			1						
Wrist sprain									1
Wrist fracture									1
Wrist contusion			1						1
Hand sprain									1
Hand wound				1					1
Finger sprain							1	1	2
Finger dislocation				1					1
Finger wound									1
Neck sprain					1				
Neck fracture									1
Face strain					1				
Face fracture				1					2
Face contusion								1	3
Face wound	1							1	1
Head other		1							1
Head contusion	1	1					1		
Head wound	1			2					1
Total	78	35	31	19	5	12	28	11	90

ankle sprains also were caused by charging. Ankle sprains (6) and strains (4) accounted for one-third of the 31 injuries which were a result of being tackled. The injuries most often caused by dangerous play were upper leg contusions (4), head wounds (2) upper leg contusions (2) and knee strains (2). A total of 19 injuries were reported as having been caused by dangerous play. The field was responsible for 28 injuries. Ankle sprains (13), upper leg strains (4), and knee sprains (2) and strains (2) were the injuries most frequently attributed to the field. Twelve injuries occurred as a result of being tripped. Four of these were ankle sprains. Equipment injuries were caused by shoes or the ball. Four of these 11 injuries were foot wounds. Five various injuries resulted from being obstructed. Other causes, which include the cases in which a cause was not listed on the questionnaire, were responsible for 90 injuries. Self-injuries, straining and not "warmed up" were often listed under other causes. Injuries most often attributed to other causes were upper leg strains (15), ankle sprains (10), lower leg strains (6) and knee sprains (5) and strains (5).

Practice and game injuries. Of the 309 injuries reported on the questionnaires 138 occurred in games and 89 occurred in practice. Eighty-two of the injuries weren't reported on the questionnaires as occurring in games or practices.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

A questionnaire was formulated to study the injuries which occurred in N.C.A.A. soccer during the 1958 season.

The source of data was information received from 43 N.C.A.A. soccer teams out of the 169 which were sent questionnaires, (a return of 25.4%). The questionnaire was designed to study (1) how frequently injuries occur; (2) what the most frequent causes of injuries are; (3) the parts of the body most frequently injured; (4) the types of injuries which most frequently occur; (5) the relationship between the types of injuries and the parts of the body injured; (6) the relationship between the injuries and the activities engaged in by the injured players at the time of the injuries; (7) the relationship betwen the players positions and the injuries; (8) the relationship between the injuries and the causes of the injuries; (9) if most injuries occur in games or practices.

The findings of this study indicated that injuries did not occur frequently. One injury occurred approximately every ten hours of exposure time and the mean number of injuries per team was seven. The majority of the 309 injuries occurred below the pelvis (79.2%), were caused by being kicked (25.2%) and occurred to players who were kicking the ball (39.4%). Physical contact caused 58.2% of the injuries, the field and equipment caused 12.6%, and 21.9% were attributed to other

causes. The most often reported injury was the sprained ankle (15.2%) and most of these were caused by the field (27.6%). The most frequent types of injuries were contusions (28.8%), strains (27.5%) and sprains (27.1%).

Conclusions

1. Many of the 309 injuries which occurred to the members of the teams that returned questionnaires could have been prevented. Although physical contact is not an objective of the game of soccer it was responsible for 58.2% of the injuries. Kicking, charging, tackling, playing dangerously, obstructing and tripping were the activities which involve physical contact. Many of these injuries could have been prevented by better supervision, better officiating, and better teaching of skills and the "spirit of the game". The number of injuries caused by the field and equipment (12.6%) could have been reduced by better fields and proper attention to the fitting of shoes and care of the feet. Many of the 21.9% of the injuries attributed to other causes such as straining, not "warmed up" and self injury might have been prevented by better conditioning programs and supervised warm up periods prior to games and practices.

2. A great number (54.6%) of the 309 injuries were the type which may become chronic in nature. These were the strains, sprains and dislocations. The ankle, knee and upper leg were the parts of the body to which these injuries most often occurred.

Recommendations

1. Coaches should place much emphasis upon conditioning and the teaching of skills. They should teach players to execute skills

correctly and to play with in the "spirit of the rules". Supervised warm up periods should precede all practice sessions and games.

2. Referees must officiate games in such a manner as to keep dangerous and unnecessarily rough play to a minimum. It is recommended that the Dual Referee System be used if at all possible.

3. Prior to the beginning of the season the field should be made safe to play on, and should be maintained in a safe condition throughout the season.

4. Coaches should devote proper attention to the fitting of shoes and instruct the players to take proper care of their feet. Special care must be taken when new shoes are being broken in to avoid blisters.

5. Each team should have a Doctor or an experienced trainer who works closely with the team. Injuries such as strains and sprains, which occur often and may become serious, should receive immediate medical attention. Players who suffer such injuries should be permitted to return to competition only with the consent of a physician. All coaches should be trained in first aid.

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APPENDIX A

A SURVEY OF INJURIES OCCURRING IN NATIONAL COLLEGIATE ATHLETIC ASSOCIATION SOCCER IN 1958

- Name of school _____
- Name of coach _____
- Number of players on varsity squad _____
- Number of varsity games _____
- Number of practices during season _____
- Length of time of practices _____

INJURY: That condition of the player resulting from activity in game or practice recognized by the coach or trainer, which necessitates medical treatment or which forces the player to withdraw from activity for at least one day.

INJURY INFORMATION	INJURY NUMBER																								
	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16	17	18	19	20	21	22	23	24	25
AREA INJURED																								
bone																								
muscle																								
ligament																								
tendon																								
organ																								
SPECIFIC AREA INJURED																								
toe																								
foot																								
ankle																								
lower leg																								
knee																								
upper leg																								
pelvis																								
back																								
abdomen																								
chest																								
shoulder																								
upper arm																								
elbow																								
lower arm																								
wrist																								
hand																								
finger																								
neck																								
face																								
head																								

Check (✓) the information which applies to each injury as it occurs.

INJURY INFORMATION	INJURY NUMBER																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
TYPE OF INJURY																								
sprain																								
strain																								
dislocation																								
fracture																								
contusion																								
wound																								
ACTIVITY ENGAGED IN BY INJURED PLAYER																								
kicking (shooting)																								
kicking (passing)																								
kicking (clearing)																								
running																								
dribbling																								
tackling																								
trapping																								
heading																								
charging																								
obstructing																								
dangerous play																								
catching (by goalie)																								
strike or punch (goalie)																								
kick or throw (goalie)																								
practice drill																								
CAUSE OF INJURY																								
kicked																								
charged																								
tackled																								
dangerous play																								
obstructed																								
tripped																								
caused by opponent																								
caused by team mate																								
caused by field																								
caused by equipment																								
WHEN AND WHERE THE INJURY OCCURRED																								
September																								
October																								
November																								
December																								
practice																								
game																								
offensive half of field																								
defensive half of field																								
INJURED MAN'S POSITION																								
Goalie																								
Full Back																								
Half Back																								
Outside																								
Inside or C.F.																								

Please return this questionnaire at the close of your season to:

Donald F. Walter, Jr.
935B Cherry Lane
Michigan State University

APPENDIX B

MICHIGAN STATE UNIVERSITY

OF AGRICULTURE AND APPLIED SCIENCE • EAST LANSING

DEPARTMENT OF INTERCOLLEGIATE ATHLETICS

Dear Soccer Coach:

I am conducting a survey of the injuries occurring in National Collegiate Athletic Association soccer in 1958 in partial fulfillment of the requirements for the degree of Master of Arts, Department of Health Physical Education and Recreation, Michigan State University.

The questionnaire has been constructed so as to make the task of answering as easy as possible. Please fill in the information at the beginning of the survey. When an injury occurs place a check mark in all of the blocks which apply to that injury. The first injury will be checked in column one, the second injury in column two, and so on. Any information which might apply to an injury which is not included in the survey may be written in the blank spaces. Neither you nor your school will be identified in this study.

There is little information about the injuries which occur in intercollegiat soccer in this country. Through this survey I hope to obtain this information. Please aid me and your profession by answering the enclosed questionnaire, recording the information about injuries as they occur, and returning it at the close of your season. You will find a self addressed, stamped envelope enclosed.

Thank you for your help and cooperation. Best wishes for a successful and injury-free season.

Sincerely yours,

Donald F. Walter, Jr.

Donald F. Walter, Jr.

[redacted]