THE RELATIONSHIP BETWEEN ANKLE TAPING AND KNEE INJURIES IN HIGH SCHOOL FOOTBALL

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Clyde J. Stretch

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By

Clyde J. Stretch

AN ABSTRACT OF

A THESIS

Submitted to
Michigan State University
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1966

Approved: Wayne Van Huss

ABSTRACT

THE RELATIONSHIP BETWEEN ANKLE TAPING AND KNEE INJURIES IN HIGH SCHOOL FOOTBALL

by Clyde J. Stretch

The purpose of this study was to determine the relationship between the support of the ankle by adhesive strappings or cloth wrappings and the incidence of knee injuries in football players.

Following the 1956 football season, the coaches of ninety-five Michigan high schools were interviewed, with the remaining schools that were members of the Michigan High School Athletic Association being sent questionnaires. The responses to the questionnaires resulted in data from 516 of the 532 possible high schools.

Chi-square was used for analysis of the data, allowing the following conclusions to be drawn:

1. No relationship existed between the incidence of knee injuries and the use or method of supporting the ankles artificially.

2. Schools with populations ranging from 375 to 899 students had the greatest incidence of knee injuries.

3. Schools with populations of under 175 students had the smallest incidence of knee injuries.

4. Schools located in communities termed as urban-industrial had the highest incidence of knee injuries.

5. Schools located in communities termed as rural-agricultural had the lowest incidence of knee injuries.

6. The backfield positions were found to have incurred the most knee injuries, followed by the end and internal line positions, respectively.

7. No relationship existed between the incidence of knee injuries and the playing of football under game or practice conditions.

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DEDICATION

This thesis is dedicated to my wife, Missy, without whose patience and understanding this study would not have been possible.

ACKNOWLEDGMENTS

The author would like to express his gratitude to Dr. Wayne Van Huss, without whose advice and assistance this study would not have been possible.

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CHAPTER I

THE PROBLEM

Introduction

The problem that has been under study was originated in 1956. At that time, an article by Joseph Doller[1] caused a great deal of concern to coaches and trainers; as it hypothesized, with some emperical evidence, that there was a relationship between adhesively strapped ankles and the incidence of knee injuries. Hobart,[2] in 1936, expressed this same hypothesis, however, it was mentioned in passing and generally ignored. Slocum,[3] in 1959, supported this position, but added that he felt that this was not dangerous to a properly trained player.

The influence of Doller's article showed itself in the hypothetical basis of the data collected for this study. That basis was that there would be greater incidence of knee injuries when the ankle was reinforced

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[1]Joseph Doller, "Reducing Knee Injuries by Proper Ankle Strapping," Scholastic Coach, 25:40-41, May, 1956.

[2]Marcus H. Hobart, "Athletic Injuries," Journal of the American Medical Association, 107:488-491, 15 August, 1936.

[3]Donald B. Slocum, "The Mechanics of Football Injuries," Journal of the American Medical Association, 170:1640-1646, 1 August, 1959.

by adhesive tapes or cloth wraps. The passing of ten years, however, provided a retrospective view which resulted in an alteration of the original hypothesis.

A review of Thorndike's data at Harvard showed that the most commonly injured portion of the knee was that of the internal lateral ligament.[4] These same data also indicated that the primary structures yielding to trauma in the ankle were the anterior tibiofibular, the talofibular and the calcaneofibular ligaments. Thus two of the three most commonly injured ankle ligaments directly opposed the most commonly injured ligament of the knee.

Statement of the Problem

To determine the relationship between the support of the ankle by adhesive strappings or cloth wrappings and the incidence of knee injuries in football players.

Need for this Study

Injuries have been accepted as a part of football, but with a corresponding concern to keep them to a minimum. Protection of the player from serious injury has required that certain techniques be used. The fear that this protection could result in further, and perhaps more serious injury has left coaches and trainers with a serious dilemma. This study was undertaken as an attempt to

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[4]Augustus Thorndike, Athletic Injuries (Philadelphia: Lea and Febiger, 1962).

clarify the situation as to whether or not it is in the best interests of the general safety of the football player to apply artificial support to his ankles.

Scope of this Study

This study was restricted to those schools participating in high school interscholastic football under the sanction of the Michigan High School Athletic Association.

Limitations of this Study

1. There were individual differences in the interpretation of the questionnaire used to gather the data.

2. Some of the responses in the questionnaire required the use of recall on the part of the responder.

3. The responses to the questionnaire were limited to those players who were considered to be within the first twenty-two players on the squad.

4. Portions of responses to the questionnaire occasionally required minor interpretations.

Definition of Terms

1. Knee Injury--Any injury to the knee which resulted in the loss of the player for at least one game or one week of practice.

2. Ankle Tape--Adhesive tape applied in such a manner so as to provide support to the ankle.

3. Ankle Wrap--A heavy cloth bandage 1 1/2 to 2 inches wide and 6 to 10 feet long, encircling the ankle in such a manner that support is provided.

4. Game--A Michigan High School Athletic Association sanctioned interscholastic contest in football.

5. Practice--The daily supervised preparation for a game.

6. Trainer--An employee of a school whose only direct connection with that school's football program is in the area of prevention and treatment of injuries incurred in football.

7. Bare Ankle--Ankles of football players which have no artificial means of support.

8. Double Football Taping--A method of adhesive strapping which restricts inversion and eversion of the ankle with relatively no effect upon dorsal and plantar flexion.

9. Basketweave Taping--A method of adhesive strapping utilizing intertwining horizontal and vertical strips of tape as a basis for covering the ankle to restrict inversion, eversion, dorsal flexion and plantar flexion.

10. Gibney Taping--Using the same basis as the basketweave, the anterior portion of the ankle is left open, limiting restriction primarily to inversion and eversion.

11. Figure of Eight Taping--A method of adhesive strapping in which the lower portion of the leg and the upper portion of the foot are encircled with a continuous strip of tape, providing limited restriction in inversion, eversion, dorsal flexion and plantar flexion.

CHAPTER II

REVIEW OF RELATED LITERATURE

Aside from Doller's[1] poorly substantiated statement that a relationship between ankle taping and knee injuries does exist along with an occasional opinion,[2,3] there was no literature dealing specifically with the subject of this study. The suceptability of the knee and ankle to injury, however, has been noted often.

Burnett and O'Brien,[4] collecting injury data from about 100 Massachusetts high schools during the football seasons from 1929 to 1932 found ankle injuries to be most common with injuries to the knee next in order. Neilson,[5] studying high school football in California during the 1932 season, found knee injuries contributing approximately 11% of all injuries, leading all other injuries.

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[1]Doller, op. cit., pp. 39-40. [2]Hobart, op. cit.

[3]Slocum, op. cit.

[4]J. H. Burnett and F. J. O'Brien, "Survey of Football Injuries in the High Schools of Massachusetts," Research Quarterly, 4:91-98, October, 1933.

[5]N. P. Neilson, "The Nature, Frequency and Age on Incidence of Injuries in Interscholastic Football," Research Quarterly, 4:78-90, October, 1933.

Hobart's[6] compilation of injury data at Northwestern University during the football seasons from 1930 to 1934 showed the knee leading all other parts of the anatomy with 15% of all injuries. Lillie,[7] by studying insurance claims of 42 Oregon high schools during the 1939 football season, found knee sprains accounting for 10% of all injuries, with ankle sprains contributing 9%.

McPhee,[8] reviewing football injuries at Princeton University from 1933 to 1942, reported approximately 18% of all injuries occurred to the knee and about 12% to the ankle. Gallagher[9] reported ligamentous knee injuries from football leading all other injuries in various sports requiring hospitalization at Phillips Academy, Andover, Massachusetts during the years from 1940 to 1947, with ankle injuries in football being reported as the second most frequent.

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[6] Hobart, op. cit.

[7] Jerome C. Lillie, "A Study of Football Injuries in Forty-Two Oregon High Schools" (unpublished M.S. Thesis, University of Oregon, Eugene, 1941).

[8] Harry R. McPhee, "Football Injuries," Journal-Lancet, July, 1947, pp. 267-268.

[9] J. R. Gallagher, "Athletic Injuries Among Adolescents," Research Quarterly, 19:198-214, October, 1948.

Dolan,[10] demonstrating an increase of knee injuries in football reported 12 knee injuries from 1930 to 1940 at Purdue University, with 60 knee injuries for the next decade. VanBrocklin[11] reported knee and ankle sprains resulted in close to 20% of all insurance claims from Oregon high school during the 1948 season.

Cathcart,[12] quoting the Handbook of the National State High School Athletic Associations, reported knee injuries constituting 19.6% of all football injuries during the 1952 football season. Krause,[13] in a review of Oregon high school football insurance claims for the 1955 football season stated that knee injuries led with 11.3% of all injuries with ankle injuries second with 7.3% of the injuries.

Thorndike's[14] data for injuries at Harvard University from 1932 to 1959 showed knee and ankle injuries leading all eothers. During that period of time there were a total of 1,303 knee injuries and 1,010 ankle injuries, or an average

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[10]Joseph Dolan, "Football Injuries Change, Too," Safety Education, September, 1950, 30:1.

[11]Norman VanBrocklin, "The Nature and Frequency of Injuries Occurring in Oregon High School Interscholastic Football" (unpublished M.S. thesis, University of Oregon, 1951).

[12]Jack F. Cathcart, "Football's Ounce of Prevention," Journal of Health, Physical Education and Recreation, 28:8, October, 1953.

[13]Melvin A. Krause, "The Nature and Frequency of Injuries Occurring in Oregon High School Interscholastic Football" (unpublished M.S. thesis, University of Oregon, 1960).

[14]Thorndike, op. cit.

of about 85 knee and ankle injuries per year. This data, however, included all intercollegiate sports at Harvard during those twenty-seven years.

The high rate of injury to the knee and ankle underscored the importance of proper protection for those joints. Misconceptions of proper protection have left only the athlete to suffer.

CHAPTER III

METHODOLOGY

This study was inaugurated for the purpose of determining the existence of a relationship between protective adhesive ankle strappings or cloth wrappings and the incidence of knee injuries in the sport of football. The data for this study was assembled through the use of personal interviews and a mailed questionnaire.

Interview Method

Personal interviews were conducted with football coaches of ninety-five high schools within a seventy-five mile radius of the Michigan State University campus. The selection of the interview population was based upon the convenience of the schools for interview. These interviews and information drawn from them served as the foundation from which the questionnaire was developed.

Questionnaire Method

A list of all high schools participating in interscholastic football within the state of Michigan was secured from the Michigan High School Athletic Association. A questionnaire and a letter of transmittal were sent to each of the schools listed, with the exception of those schools

previously interviewed. Follow-up letters were then sent three and six weeks subsequent to the original questionnaire. Questionnaires were sent to a total of 437 schools.

Deletion of Schools

Two schools were deleted from final consideration. Freeport High School reported that its football coach was no longer a member of its faculty, leaving no one available to supply the desired information. The second deleted school, Michigan School for the Blind, although sent the original questionnaire, was not included in the follow-up letters due to the unique relationship between the sport and those participants.[1]

Preliminary Statistical Procedure

The data from both the interviews and questionnaires were transposed to IBM cards. Compilation of the data was done with the use of an IBM Card Sorter, after which, because of the enumerative data, chi square was applied. Using the total number of schools reporting certain results as the basis for the chi square, the highest probability was reported for each portion of the data.[2]

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[1]This work done by James Folsum; April-June, 1957.

[2]This work done by Emerson Dromgold, 1963.

Final Statistical Methodology

The raw data from the interviews and questionnaires was retabulated and transposed to IBM cards. This data was then programmed for a computer output of chi-square contingency tables for all reasonable relationships within the data. All data not pertaining to the specific problem of study was set aside. The contingency tables provided by the computer served as a basis for the compilation of the data reported here, with only one such table reported directly. In some cases the card sorting technique was used to clarify and verify data reported by the computer. The basis for the majority of the final tables was the use of the total number of player participants (twenty-two per school). The probability level for acceptability was set at the .05 level.[3]

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[3]This work done by the author, April-June, 1966.

CHAPTER IV

ANALYSIS AND PRESENTATION OF DATA

Introduction

The purpose of this study was to test the hypothesis that there was no direct relationship between the support of the ankle by adhesive strappings or cloth wrappings and the incidence of knee injuries in the football player.

The Data

A total of 516 schools responded either through interview or questionnaire. This was a ninety-six per cent response including some 11352 Michigan high school football players. Initially, the data were broken into school sizes following the guidelines set forth by the Michigan High School Athletic Association for interscholastic competition. These school sizes were compared for the incidence of knee injuries.

Table I indicated that the schools whose populations ranged from 375 to 899 provided a high schi square in terms of knee injuries, with the schools with populations below 175 contributing a high chi square with a lack of knee injuries, providing a significant final chi square. A possible reason for this difference in the incidence of

TABLE I.--The relationship between school size and knee injuries.

Size of School	Number of Schools	Total Number of Players	Total Knee Injuries	% Injuries by Size of School	Expected Number of Knee Injuries	X^2
900+	77	1694	98	15.9	83	2.71
375-899	154	3388	204	36.8	166	8.70
175-374	215	4730	200	36.1	231	4.16
Under 175	70	1540	51	9.2	75	7.68
TOTAL	516	11352	553	100.0	555	23.25

Three degrees of freedom.

X^2 required at .05 level: 7.815.

knee injuries was provided in the data as it included the type of community in which each school was located.

Table II made a comparison similar to that of Table I, substituting the type of community for the size of the school. The determination of the type of community was left to the descretion of the responder which might have had some effect upon the outcome of this table. Having a significant chi square total, Table II pointed to the urban-residential schools as those with a high rate of knee injuries with the rural-agricultural schools having far fewer injuries than expected. This table seemed to indicate that a relationship existed between the size of the school and the type of community.

Table III, a significant chi-square contingency table, pointed to some relationship between the school size and the type of community. The largest percentage of those schools with a population of less than 175 students were located in the rural-agricultural communities. This was not the case, however, of the urban-residential schools as they were the largest percentage of the schools with populations above 900.

Table IV, comparing the incidence of knee injuries by position, showed a high incidence of knee injuries at the backfield positions, with the internal line positions exhibiting fewer injuries than expected. The differences were statistically significant.

The smaller number of schools considered in this table was due to the fact that this information was not obtained from those schools that were interviewed. The lack of

TABLE II.--The relationship between type of community and knee injuries.

Type of Community	Schools per Community	Total Number of Players	Total Knee Injuries Per Community Type	% Knee Injuries by Type of Community	Number of Expected Knee Injuries	X^2
Urban-Industrial	63	1368	77	13.3	66	1.83
Urban-Residential	122	2684	160	29.0	128	8.00
Urban-Ind. & Res.	39	858	41	7.5	41	0.00
Urban-Rural	56	1232	64	11.6	69	0.36
Rural-Agricultural	155	3410	128	23.3	163	7.20
Rural-Residential	22	484	20	3.7	23	0.39
Rural-Agr. & Res.	22	484	23	4.3	23	0.00
Others	37	814	40	7.3	39	0.03
TOTAL	516	11352	553	100.0	552	17.81

Seven degrees of freedom.

X^2 required at .05 level: 14.067.

TABLE III.--The relationship between school size and type of community.

School Size	Type of Community								Total	X^2
	U-I	U-R	U-RI	U + R	R-A	R-R	R-RA	Other		
900+	21	31	18	5	0	1	0	1	77	82.6
375-899	21	51	10	27	16	12	4	12	153	38.7
175-374	19	35	8	21	95	7	12	19	216	27.1
under 175	1	5	3	3	45	2	6	5	70	48.6
TOTAL	62	122	39	56	156	22	22	37	516	196.9
X^2	23.7	28.2	30.9	10.9	83.4	7.0	8.2	4.6	196.9	

Ten degrees of freedom.

X^2 required at .05 level: 18.307.

CODE:

U-I Urban-Industrial
U-R Urban-Residential
U-RI Urban-Industrial & Residential
U + R 1/2 Urban, 1/2 Rural
R-A Rural-Agricultural
R-R Rural-Residential
R-RA Rural Residential & Agricultural

TABLE IV.--The relationship between position played and knee injuries.

Position	Number of Players	Number of Knee Injuries	% Knee Injuries Per Position	Expected Knee Injuries Per Position	X^2
Internal Line	5160	208	37.6	252	7.7
Backfield	4128	262	47.4	202	17.8
End	2064	83	15.0	101	3.9
TOTAL	11352	553	100.0	555	29.4

Two degrees of freedom.

X^2 required at .05 level: 5.991.

TABLE V.--The relationship between incidences of injury in game and practice.

	Number of Players	Number of Knee Injuries	% of Knee Injuries	Expected Number of Knee Injuries	X^2
Practice	9262	247	53	232	.91
Game	9262	218	47	232	.90
TOTAL		465	100	464	1.81

One degree of freedom. X^2 required at .05 level: 3.814.

significance of Table V seemed to indicate the lack of a relationship between the incidence of knee injuries and the conditions under which the players were participating.

Investigation of the data to this point dealt with general conditions which might have had an influence upon the incidence of knee injuries. The importance of these tables became evident upon consideration of data more directly related to the condition of the ankles.

Since records were not available as to the specific number of football players wearing additional support on their ankles, an indirect approach to the relationship between ankle support and knee injuries was required. This approach was made by way of the policy used by each coach for determining which members of a team were to have additional support applied to their ankles. Because many teams differ their ankle support policies between game and practice, these two conditions were approached separately.

Table VI, having a significant chi-square, was limited to 421 schools because of the lack of practice injury data from those schools which were interviewed. There were two major contributors to the final chi-square; those schools whose ankle policy was to tape only the injured ankles and wrap all other ankles had more injuries than expected, with those schools whose ankle policy was to tape only the injured ankles and leave all other ankles unsupported had fewer injuries than expected. This tended to deny the hypothesis

TABLE VI.--The relationship between ankle taping policy and knee injuries incurred in practice.

Policy	Schools Using Policy	Players Using Policy	Players Injured	% of Players Injured	Expected Players Injured	X^2
Tape all	8	176	5	2.0	5	0.00
Tape backs, ends & injured; wrap rest	3	66	3	1.5	2	0.50
Tape injured; wrap rest	104	2288	73	28.5	55	5.89
Tape injured; rest bare	209	4598	102	41.5	129	5.65
Tape backs, ends & injured; rest bare	2	44	1	.4	1	0.00
Tape or wrap only injured	87	1914	59	23.9	53	0.68
Other	8	176	4	1.6	5	0.20
TOTAL	421	9262	247	100.0	250	12.92

Six degrees of freedom.

X^2 required at .05 level: 12.592.

of this study, however, upon studying the same type of relationship under a game situation the solution became less simple.

This table, as was the previous table, was significant and excluded the interviewed schools because of the lack of data. Table VII seemed to confirm the conclusion indicated in Table VI since all of the policies which required some kind of support for all players had more injuries than expected, where the policies of taping a portion of the players and leaving the remainder uunsupported had fewer injuries than expected.

If viewed alone, Tables VI and VII would have been misleading. The fact was that the relationship that was determined dealt only with the policy which governed the teams and the support for their ankles. Had this been a representative method of evaluating the ankle support-knee injury question, the two tables would have been important.

Although data were not collected concerning the support or lack of support of each of the players' ankles. The following data were collected from those players directly involved with a knee injury. Of the 553 knee injuries occurring throughout the season, 283 or 51.1 percent of those players had no artificial support applied to their ankles; 136 or 24.6 percent of those players had some sort of adhesive strapping applied to their ankles; and 134 or 24.3 percent of those players had ankle wraps supporting their ankles.

TABLE VII.--The relationship between ankle taping policy and knee injuries incurred in games.

Policy	Schools Using Policy	Players Using Policy	Players Injured	% of Players Injured	Expected Players Injured	X^2
Tape all	78	1716	48	22.0	40	1.60
Tape backs ends & injured; wrap rest	38	836	30	13.8	19	6.37
Tape injured; wrap rest	63	1386	41	18.8	32	1.53
Tape injured; rest bare	135	2970	61	28.0	69	0.93
Tape backs ends & injured; rest bare	46	1012	14	6.4	23	3.52
Tape or wrap only injured	54	1188	17	7.8	28	4.35
Other	7	154	7	3.2	4	2.25
TOTAL	421	9262	218	100.0	215	19.55

Six degrees of freedom.

X^2 required at .05 level: 12.592.

With the evidence pointing to a lack of relationship between ankle support and the incidence of knee injuries, the question under study allowed the development of some details concerning it. Data was collected regarding the types of adhesive strappings applied and the person connected with the team who applied any artificial support to the ankles of the players.

Table VIII examined the relationship between taping technique used on ankles with the incidence of knee injuries. The lack of significance indicated that there was no relationship between the two variables.

The final table, although significant, could not be considered as important information due to the fact that almost 93 percent of the schools had their coaches doing all of the taping or wrapping.

Discussion

Relationships were established between the size of the school and the number of knee injuries as well as the type of community and the incidence of knee injuries. Although a relationship was established between the size of the school and the type of community, its importance to this study was questionable. The position played was found to be related to the incidence of knee injuries, but there was no relationship found between the incidence of knee injuries and the participation under game or practice conditions.

TABLE VIII.--The relationship between knee injuries with ankles taped and the taping technique.

Taping Technique	Number of Schools	Number of Players	Number of Knee Injuries	% of Knee Injuries	Expected Number of Knee Inj.	X^2
Basketweave	44	968	58	42.9	61	0.15
Figure of Eight	7	154	10	7.4	10	0.00
Gibney	1	22	2	1.5	1	1.00
Basketweave Figure of Eight	35	770	49	36.3	48	0.02
Double Football	6	132	11	8.1	8	1.12
Other	5	110	5	3.7	7	0.57
TOTAL	98	2156	135	100.0	135	2.86

Five degrees of freedom. X^2 required at .05 level: 11.070.

Note: This table makes the assumption (probably invalid) that all of the players at the schools at which the injuries took place were taped.

TABLE IX.--The relationship between the person who tapes the ankles and the number of knee injuries.

Taper	Number of Schools	Number of Players	Number Injured	Percent Injured	Expected Number Injured	X^2
Coach	487	10714	513	92.8	524	0.23
Player	4	88	1	.1	4	2.25
Doctor	3	66	9	1.6	3	12.00
Trainer	18	396	28	5.3	19	4.26
Not defined	4	88	2	.2	4	1.00
TOTAL	516	11352	553	100.0	554	19.74

Four degrees of freedom.

X^2 required at .05 level: 9.448.

A comparison of the ankle taping policies of the teams and the incidence of knee injuries established a questionable relationship. The importance of that comparison diminished when data was presented showing knee injuries occurring almost equally between supported and unsupported ankles. Along with this, no relationship was found between the knee injuries and the various taping techniques used on those players who were injured. The preponderance of coaches which applied any support to the ankles barred any conclusion as to a relationship between knee injuries and the person applying support to the ankles.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study was originated for the purpose of determining whether or not a relationship existed between the incidence of knee injuries and the use of artificial support for the ankles. Data was collected by interview and questionnare from 516 Michigan high schools for the 1956 football season. The data were analyzed using chi-square as the statistical procedure with .05 chosen as the level of acceptability.

Conclusions

This study did not attempt to show the cause of knee injuries in football, as there were many. The question in which this study was involved was whether or not there was sufficient reason to believe that ankle wrapping or taping practices were a contributing factor in knee injuries.

An analysis of the data contained in this study has resulted in the following conclusion: no relationship existed between the use or method of supporting the ankles artificially and the incidence of knee injuries. Further study of this question, however, would be recommended.

Additional information from this study allowed the following supplementary conclusions to be drawn.

1. Schools with populations ranging from 375 to 899 students had the greatest incidence of knee injuries.

2. Schools with populations of under 175 students had the smallest incidence of knee injuries.

3. Schools located in communities termed as urban-industrial had the highest incidence of knee injuries.

4. Schools located in communities termed as rural-agricultural had the lowest incidence of knee injuries.

5. The backfield positions were found to have incurred the most knee injuries, followed by the end and internal line positions, respectively.

6. No relationship existed between the incidence of knee injuries and the playing of football under game or practice conditions.

Recommendations

The following recommendations have been made for further study of the existance of any relationship with the incidence of knee injuries.

1. Warn the population to be questioned, providing for more precise data.

2. Be very specific in the definitions of all terms used in the questionnaire.

3. Study both high school and collegiate football knee injuries.

4. Study both pre-season and in-season conditioning programs of the teams being examined.

5. Compare knee injury incidence at each position, rather than grouping the positions.

6. If cultural determinations are to be made, provide specific criteria for such a determination.

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APPENDICES

APPENDIX A

INTERVIEW FORM

SCHOOL_____ CITY_____ COACH_____

SCHOOL CLASS_____ SIZE_____ URBAN OR RURAL_____

TYPE OF COMMUNITY_____

NUMBER OF INJURIES DURING THE 1956 SEASON?_____

DO YOU TAPE ANKLES?_____

DO YOU WRAP ANKLES?_____

WHAT IS YOUR POLICY FOR PRACTICE? WRAP____ TAPE____ NOTHING__

WHAT IS YOUR POLICY FOR GAMES? WRAP____ TAPE____ NOTHING___

AT TIME OF INJURY WERE ANKLES TAPED_____
WRAPPED_____ NEITHER_____

WHO DOES THE TAPING?_____

WHAT TECHNIQUE IS USED IN TAPING?_____

WHAT POSITION DOES THE INJURED PLAY?_____

WHAT TYPE OF INJURY?_____

WHO DETERMINES OF THE ANKLES SHOULD BE TAPED OR
WRAPPED?_____

COMMENTS:

APPENDIX B

M I C H I G A N S T A T E U N I V E R S I T Y

of Agriculture and Applied Science - East Lansing

College of Education - Department of Health Physical
Physical Education and Recreation

Dear Coach:

Some authorities believe a relationship exists between ankle taping practices and knee injury incidence.

Enclosed is a questionnaire which will provide information of this nature when the experience of a lot of coaches are gathered. Would you fill in the enclosed form relating your experiences for the first twenty-two players for the 1956 football season. Please feel free to note any comments or opinions which you think pertinent. For your convienience a stamped, self-addressed envelope is enclosed.

Your cooperation in this and past studies is greatly appreciated. The results of this study will be mailed to you providing an adequate sample is recieved for analysis. It is our hope that we can make some progress on the question we all have.

Cordially yours,

Wayne D. Van Huss
Associate Professor

APPENDIX C

QUESTIONNAIRE FORM

School_____ City_____

School Classification (A, B, C, D)_____Enrollment (approx.)_____

Type Of Community (Residential, Industrial, Farming, other)_____

The majority of the students come from: rural or urban sections____

Number of knee injuries during 1956 football season.____ (A knee injury is defined as an internal derangement of the knee which caused the player to miss at least one game or one week of practice. If your squad incurred no knee injuries complete only part B)

A. KNEE INJURY INFORMATION

(1) What position did each of the injured play?_____

(2) Did each of the injuries occur during practice or game_____

(3) At the time of the injury were the ankles taped, wrapped, or unsupported other than for the shoe?____

(4) What act was the boy performing when injured? (Tackling, blocking, being blocked, being tackled, passing, receiving pass, others)_____

(5) Does the boy drive to and from school?_____

B. ANKLE SUPPORT INFORMATION

(1) What is your policy for practice? (a) Tape all ankles_____ (b) Wrap all ankles, except the injured_____ (c) Tape or wrap (please underline which) only the injured, no additional support for the rest of the players_____ (d) Others (please specify)_____

(2) What is the policy for games? (a) Tape all ankles____ (b) Wrap all ankles, except the injured_____ (c) Tape or wrap (please underline which) only the injured, no additional support for the rest of the players_____ (d) Others (please specify)_____

(3) Who does the taping?_____

(4) What taping technique or techniques are used? (Figure 8, basketweave, etc.)_____

(5) Who determines if ankles are wrapped or taped? (Coach, Player, Doctor)_____

If you had the approval of the State High School Athletic Association to administer a conditioning program for two weeks prior to the football season would you conduct such a program?_____

Coaches Name_____

Do you want the results of this study sent to you? Yes or no_____

COMMENTS