1-1-1984

Optometric trends in sports vision: Utilization, and practitioner role expansion potential

Kent Helmick
Pacific University
Abstract
The goals of this project were aimed at generating both longitudinal and expansive data relevant to the following: 1) assessment of the level of knowledge of athletic teams about optometry, 2) discovering the usefulness of existing sports vision programs, and 3) determination of the interest of teams (both college and professional) in sports vision care. Professional and college baseball, basketball, football, and hockey teams were queried via a postal survey. To gauge the opinion of practicing optometrists, separate inquiries were mailed to practitioners across the United States. Results indicate that there remains a significant unmet need for vision care (i.e. screenings, contact lenses, and visual training) in the athletic community. Optometrists continue to demonstrate a keen interest in prescribing for the athlete in private practice; as well as, in a consultation role to sports teams.

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OPTOMETRIC TRENDS IN SPORTS VISION: KNOWLEDGE, UTILIZATION, AND PRACTITIONER ROLE EXPANSION POTENTIAL

BY

KENT D. HELMICK

Accepted by the faculty of the College of Optometry, Pacific University, in partial fulfillment for the Degree of Doctor of Optometry.

Midterm Grade

Final Grade

ALAN W. REICHOW, O.D.
THEESIS ADVISOR
OPTOMETRIC TRENDS IN SPORTS VISION: KNOWLEDGE,
UTILIZATION, AND PRACTITIONER ROLE
EXPANSION POTENTIAL

A THESIS
PRESENTED TO THE FACULTY
OF
PACIFIC UNIVERSITY

BY

KENT, D. HELMICK

IN PARTIAL FULFILLMENT
OF THE REQUIREMENT FOR THE DEGREE
DOCTOR OF OPTOMETRY
JANUARY 1984

ADVISOR
ALAN W. REICHOW, O.D.
ACKNOWLEDGEMENTS

The author wishes to extend special gratitude and appreciation to Dr. Alan Reichow for his assistance and encouragement in conducting this research. Additionally, I would like to thank Dr.s Norman Stern and Karen Cahill for their consultatory assistance in the initial survey-stage of this project.

I would also like to applaud the considerable effort of the 1980 Survey/thesis team of Douglas C. Barton, Karen Ruckel Cahill and Laureen K. Link for establishing the groundwork upon which this thesis builds.

I thank the optometrists, as well as the coaches and trainers of the sports teams for their assistance in completing and returning the surveys.

Last, but not least, I thank the Oregon Optometric Association for providing financial support for this research.
ABSTRACT

The goals of this project were aimed at generating both longitudinal and expansive data relevant to the following: 1) assessment of the level of knowledge of athletic teams about optometry, 2) discovering the usefulness of existing sports vision programs, and 3) determination of the interest of teams (both college and professional) in sports vision care.

Professional and college baseball, basketball, football, and hockey teams were queried via a postal survey. To gauge the opinion of practicing optometrists, separate inquiries were mailed to practitioners across the United States.

Results indicate that there remains a significant unmet need for vision care (i.e. screenings, contact lenses, and visual training) in the athletic community. Optometrists continue to demonstrate a keen interest in prescribing for the athlete in private practice; as well as, in a consultation role to sports teams.
TABLE OF CONTENTS

Acknowledgements i
Abstract ii
Introduction 1
Procedure 2
Results 3

Table I: Optometrists serving as vision consultants compared to community size. 5

Table II: OD's believing in a potential for growth of optometry in sports vision compared with their community size. 6

Table III: Optometrists prescribing separately for the athlete compared to the community size in which they practice. 7

Table IV: College and Professional teams utilizing vision consultants. 10

Table V: Percentage of colleges having vision consultants compared to their enrollments 11

Table VI: Percentage of college and pro sports teams which recommend soft contact lenses. 12

Discussion 13
Appendix A 14
Appendix B 18
Appendix C 23
References 25
INTRODUCTION

Optometry, to date, has yet to fully recognize the numerous avenues of potential available in the area of Sports Vision. Relevant to the foregoing premise, the goals of this research were aimed at both longitudinal and expansive data, which was initially addressed by an earlier Pacific University College of Optometry thesis project (Barton, D.C., Cahill, K.R., and Link, L.K. Knowledge, Utilization, and Potential for Expansion of the Optometrists Role in Sports Vision, completed March, 1981). Since the data-gathering in 1980 several events have transpired indicating a further escalation of interest in athletics and visual-perceptual-motor physiology (Harris 1983).

At the macroscopic level (in terms of USA sports interest) this country shows ample signs of a further yearning for professional athletic programs as witnessed by the recent emergence of the United States Football League (USFL). Additionally, at the amateur level, the 1984 Olympic Games has fueled growing interest in numerous athletic endeavors. Of particular interest, as noted by Dr. Richard Kavner (Chairman, AOA Sports Vision Section working with the US Olympic Committee): "There are certain skills that run fairly common among top-performing athletes. First, we found that over 90% of the athletes we tested, whether with or without glasses, exhibited above average acuity. Second, the majority of athletes exhibited better-than-average binocular vision skills. Third, they exhibited rapid speed of perception skills; fourth, good eye/hand coordination; and fifth, flexible visualization skills." Additionally, vision is considered so athletically important as to warrant current
scrutiny (for potential increases in visually guided performance) at the Colorado Springs Olympic Training Center.

At the more microscopic and scientific level are institutions such as Pacific University which have established both sports vision clinics, and continuing graduate education programs in sports vision.

The optometric professional community has also demonstrated, through its 1978 establishment of the A.O.A. Sports Vision Section, the desire to perpetuate an ongoing involvement in the area of sports vision.

PROCEDURE

The research for this project was conducted via a postal survey. One-hundred and eight (108) short answer questionnaires were mailed to all of the trainers of selected professional sports teams (these teams represented the following leagues: NFL, USFL, NBA, NHL, and Major League Baseball) across the country (see Appendix A for a copy of the questionnaire). Of these, 21 were sent to pro-basketball, 26 to pro-baseball, 40 to pro-football, and 21 to pro-hockey teams (the 3 former categories served as the basis for a longitudinal correlation with the Barton, et al 1980 study, whereas the latter category, pro-hockey, served as expansive data). Trainers were chosen as they usually stay with professional teams longer than the coaches, and are more aware of the player's personal health. The surveys were fashioned to concentrate mainly on the topics of contact lenses and visual training, and the usage of these in the respective sports surveyed.

For comparison 80 colleges were selected at random from
Webster's Collegiate Dictionary. College enrollment and size of the town in which they are located were varied. The surveys were directed to particular sports (football, basketball or baseball) via the athletic department of the respective schools.

To assess the optometric opinion in the field, separate questionnaires gauging interest, income gained from athletic programs, and philosophies concerning optometry and the athlete were mailed to practitioners (see Appendix A for copy of the questionnaire). Two optometrists from each state were selected at random from the Blue Book of Optometry.

The responses received were tallied in their respective categories and questions from the three surveys were compared yielding an over-all view.

Finally, the data derived from the survey was correlated with the 1980 generated data so as to determine the longitudinal trends over the past two and one-half years.

The data was subsequently placed in tables and compared with college size, town/city size, optometrist/opthalmologist ratios, and the potential for increased optometric participation in sports vision.

RESULTS

Of the 100 surveys mailed to optometrists, 51 were completed and returned. Of those returned it was found that eight (or 15.6%) are presently serving as vision consultants to a high school, college, or professional team. This compares with 9.4% in the 1980 study. Two O.D.s are consultants to high schools, three to collegiate
programs, one to both collegiate and professional teams, one to all three levels, and one O.D. did not specify.

When comparing the optometrists serving as consultants with respect to the size of their community it was indicated that in a larger community the optometrist was more apt to be involved as a sports vision consultant. See Table I (both 1980 data and current data are plotted).

Four optometrists contribute their services voluntarily, one is compensated monetarily, and three did not indicate their compensation status.

Of the optometrists polled 90.2% (46 of 51) indicated that they felt there was potential for growth in the field of sports vision. This compares with 85.0% in the Barton, et al study. As in the 1980 study, there was no significant correlation between the size of the community where the O.D. practiced and his view on this matter.

The majority of responding optometrists see the greatest potential in the following areas: 1) Vision Consultant, 2) Visual Training, and 3) Contact Lenses. For numerical breakdown and additional areas of interest to responding optometrists see Appendix B.

O.D.s considered the athlete separately when prescribing corrective lenses 64.7% (33 of 51) of the time (this compares to 75% in the 1980 study). See Table III, page 7.

The major areas of concern, in both this and the 1980 studies were contact lenses and "protective" sports frames. For additional information see Appendix B.

Approximately eighty-four percent (84.3%, 43 of 51) of the
TABLE I: Optometrists serving as vision consultants compared to community size.

<table>
<thead>
<tr>
<th>Population of Community</th>
<th>1980 Data</th>
<th>1983 Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-25,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-50,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;100,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE II: OD's believing in a potential for growth of Optometry in sports vision compared with their community size.
TABLE III: Optometrists prescribing separately for the athlete compared to the community size in which they practice.
optometrists responding to this survey prefer to prescribe contact lenses rather than spectacles in several sports. Nine O.D.s said that they prefer to prescribe contacts for athletes participating in contact sports. The reasons given were as follows: 1) unobstructed vision, 2) better peripheral vision, and 3) less obtrusive. Again, as in the 1980 study, of those specifying a particular sport, football and basketball were most often listed. See Appendix B for a breakdown of these reasons.

When optometrists were again asked if they include visual training as an eye-care service to athletes, twenty of 51 O.D.s (39.2%) responding, did so affirmatively. See Appendix B for a listing of techniques (types of training) employed by responding optometrists.

Surveys were mailed to 80 colleges/universities and 87 professional baseball, basketball, and football teams (these results to be compared with the 1980 thesis project; additionally, another 21 questionnaires were mailed to professional hockey teams and this expansive data is presented in Appendix C).

Of the professional teams surveyed 17.2% (5 of 29) employ optometrists compared to 20.7% (6 of 29) employing ophthalmologists. This represents an increase of 4.6% paid vision specialists over the previous period (37.9% or 11 of 29 in the 1983 survey compared to 33.3% or 9 of 27 in the 1980 survey).

Of the college teams surveyed 23.8% (5 of 21) utilize the services of a vision care specialist, either salaried or volunteer (this figure includes one paid vision specialist and four volunteers). See Table IV. The average college/university population retaining
a vision care specialist was calculated to be 17,265. See Table V.

It was noted that while professional sports teams tend to utilize more opthalmologists (see above), college sports teams tend to utilize the service of optometrists (5 of 7; this figure incorporates the fact that three of the responding colleges utilize the services of O.D.s only, two utilize both O.D.s and M.D.s, and zero utilize only M.D.s).

When queried regarding utilization of a vision screening program the professional and college teams, collectively, responded in a positive manner; 63.3% (this figure represents 19 of 28 responding professional teams combined with 12 of 21 responding college/university teams) do utilize such a program compared to 57.4% in the previous study.

When the colleges were asked if they recommended contact lenses for their athletes 66.7% (14 of 21) indicated affirmatively. In professional sports contact lenses superceded spectacles by a substantial margin (62.1% or 18 of 29 responding teams prefer contact lenses over spectacles).

This survey supported the 1980 premise regarding the general preference of soft contacts over hard contact lenses. See Appendix B for data.

In reference to the most frequent problems reported by contact lens wearing athletes, loss and irritation headed the list.

In the area of visual training this survey showed that approximately 25% of both college and professional teams utilize this therapy. The Barton, et al, thesis had indicated that professional
TABLE IV: College and Professional teams utilizing vision consultants
TABLE V: Percentage of colleges having vision consultants as compared to their enrollments
(Enrollment: 17,265 in 1983)

<table>
<thead>
<tr>
<th>Enrollment Range</th>
<th>1980</th>
<th>1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5,000</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>5-10,000</td>
<td>25%</td>
<td>75%</td>
</tr>
<tr>
<td>&gt;10,000</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Population
TABLE VI: Percentage of college and professional sports teams which recommend soft contact lenses.
baseball teams incorporate visual training more that any other group surveyed, and this fact was reaffirmed in this survey (3 of 11 responding teams include V.T.).

DISCUSSION

Although this survey was based on a relatively small sample size there are some rather interesting inferences which can be drawn from the data. Among these inferences are:

1) Vision screenings utilized by professional and college teams are on an upward trend (up approx. 5.9% over the past three years). This seems to imply general interest arousal in this area.

2) The number of paid vision care specialists has not appeared to increase significantly over the same time period. This implies; a) that the current sports vision specialists are working harder in this area, or b) that there are other non-optometric/opthalmological personnel carrying out these services. In either case it is clear that there is room for optometric growth in this area.

3) To reiterate, 11 of 29 responding professional teams utilize the vision care services of an eye care practitioner and an additional 5 of 21 college/universities avail themselves of these services. Thus indicating a "significant void to be filled" in the area of athletic vision care.

4) Regarding town size, the implication is as follows: The larger the population base the more likely the chances of establishing a Sports Vision Practice.

5) Finally, more than 90% of the O.D.s polled, express an interest in Sports Vision and believe in its growth potential.
APPENDIX A
Pacific University College of Optometry is conducting a follow-up survey (initial survey conducted Fall, 1980) of sports teams on the college and professional levels to determine current trends, together with the present and potential roles of vision care specialists in this field.

A short questionnaire is enclosed to be completed by either the coach, trainer, or vision care specialist as is appropriate. Please return this via the self-addressed stamped envelope as soon as possible. Your cooperation and assistance in this endeavor is greatly appreciated.

Alan Reichow, O.D., Advisor
Kent D. Helmick

Enclosure
Please circle Yes - No or fill in the blanks as necessary; use back when needed.

<table>
<thead>
<tr>
<th>Name</th>
<th>____________________________________________________________________________</th>
<th>Position on Team:</th>
<th>Coach</th>
<th>Trainer</th>
<th>Vision Care Specialist</th>
</tr>
</thead>
</table>

| Sport | ____________________________________________________________________________ |

1. Is there a vision care specialist on the payroll?  
   Yes  
   No  

   If so, what title does he/she hold (O.D., M.D., etc.)?  
   ________________________________  

   If so, how has the team benefitted?  
   ________________________________  

2. Does your team utilize a vision screening program?  
   Yes  
   No  

   If so, what percentage of players screened failed visual requirements?  
   ________________________________  

   If so, what were the criteria for passing?  
   ________________________________  

3. What percentage of players requiring visual correction are wearing contact lenses?  
   ________________________________  

   Of those, what is the ratio of hard to soft lenses?  
   ________________________________  

4. What are the most frequent problems with contact lenses? (i.e., loss, glare, irritation due to playing conditions, etc.)  
   ________________________________  

5. What is the ratio of full-time contact lens wearers to those wearing their lenses only for the playing time and practices?  
   ________________________________  

6. Are there extra contact lenses kept for each of the players in case of loss or damage to the lens?  
   ________________________________  

7. Is there someone knowledgeable to remove contact lenses from an injured player?  
   If so, who?  
   ________________________________  

8. Are contact lenses recommended over spectacles for participation in this sport?  
   Yes  
   No  

   If so, is the V.T. for remedial work or for visual enhancement? (i.e., hand-eye coordination, tracking skills, etc.)  
   ________________________________  

   If so, what techniques are used for what problems?  
   ________________________________  

   If so, have individual or team improvements been noted?  
   Yes  
   No  

   What are these improvements if any?  
   ________________________________  

9. Do you use visual training (therapy) in your program?  
   Yes  
   No  

   If so, is the V.T. for remedial work or for visual enhancement? (i.e., hand-eye coordination, tracking skills, etc.)  
   ________________________________  

   If so, what techniques are used for what problems?  
   ________________________________  

   If so, have individual or team improvements been noted?  
   Yes  
   No  

   What are these improvements if any?  
   ________________________________  

10. Comments, if any:  
    ________________________________  
    ________________________________  
    ________________________________  
    ________________________________  
    ________________________________  
    ________________________________  
    ________________________________  
    ________________________________  
    ________________________________  
    ________________________________  
    ________________________________  

Pacific University College of Optometry has recently established a Sports Vision Clinic and is currently offering an elective-credit course to both optometry students and practicing optometrists.

The College of Optometry is therefore conducting the following survey of optometrists across the country to determine the present and potential roles of the profession in the area of sports vision.

Please complete the short questionnaire below and return it via the self-addressed stamped envelope enclosed as soon as possible. Your cooperation and assistance is greatly appreciated.

Alan Reichow, O.D., Advisor

Kent D. Helmick

<table>
<thead>
<tr>
<th>SPORTS VISION SURVEY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please circle Yes - No or fill in the blanks as necessary; use back when needed.</td>
</tr>
</tbody>
</table>

1. Are you presently serving as a vision consultant to a high school, college, or professional sports team?  
   - Yes  
   - No  
   If so, name the team level, and describe your obligations: ____________________________  
   If so, are you on the payroll or is the program voluntary? ____________________________

2. Do you feel there is a potential for optometric growth in the field of sports vision?  
   - Yes  
   - No  
   If so, how? ____________________________

3. In your practice do you consider athletics separately when prescribing for the high school or college student?  
   - Yes  
   - No  
   If so, please give an example: ____________________________

4. Do you prefer prescribing contact lenses vs. spectacles in certain sports?  
   - Yes  
   - No  
   If so, what sports and why? ____________________________

5. Do you suggest and utilize visual training (therapy) for athletes?  
   - Yes  
   - No  
   If so, are the techniques used mostly for remedial training or visual enhancement? ____________________________

6. If you are interested in the results of this survey, please contact Pacific University, College of Optometry, Sports Vision Clinic.
APPENDIX B
I. Answers to the question for the Optometry Survey, "Are you presently serving as a vision consultant to a high school, college, or professional team?" compared to size of community.

<table>
<thead>
<tr>
<th>Size of Community</th>
<th>Yes</th>
<th>No</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,000</td>
<td>1</td>
<td>19</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>5-25,000</td>
<td>2</td>
<td>12</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>25-50,000</td>
<td>1</td>
<td>10</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>50-100,000</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>100,000</td>
<td>3</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II. Areas in which the optometrists surveyed feel there is a potential for optometric growth.

<table>
<thead>
<tr>
<th>AREA</th>
<th>1980</th>
<th>1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisory/Consultant</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Visual Training</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Contact Lenses</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Sports Frames</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Peripheral Vision</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Team Optometrist</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Screenings</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Recreational Sports</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Stereo Vision</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Better design of uniforms</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>and equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School System</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>involvement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III. Areas in which optometrists consider athletics separately in their own practices.

<table>
<thead>
<tr>
<th>AREA</th>
<th>1980</th>
<th>1983</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Lenses</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>Sports Frames</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>2nd pair of lenses</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Visual Skills</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Impact Resistant Glasses</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ocular Protection</td>
<td>2</td>
<td>-</td>
</tr>
</tbody>
</table>
IV. Reasons why optometrists prefer to prescribe contact lenses for athletes.

1983 STUDY

<table>
<thead>
<tr>
<th>REASON</th>
<th># CITING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unobstructed Vision</td>
<td>11</td>
</tr>
<tr>
<td>Wider Peripheral View</td>
<td>10</td>
</tr>
<tr>
<td>Less Obtrusive</td>
<td>9</td>
</tr>
<tr>
<td>Spectacle Breakage</td>
<td></td>
</tr>
<tr>
<td>Better acuity</td>
<td></td>
</tr>
<tr>
<td>Better Tracking of Moving Objects</td>
<td></td>
</tr>
</tbody>
</table>

V. Visual Training techniques used by optometrists who train athletes.

<table>
<thead>
<tr>
<th>TECHNIQUE</th>
<th>1980 STUDY</th>
<th>1983 STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodative Rock</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Hand-Eye Coordination</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Pursuits</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Gen. Binocular Training</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Depth Perception</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Far-Near Saccades</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Peripheral Awareness</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Visual Enhancement</td>
<td>-</td>
<td>11</td>
</tr>
</tbody>
</table>

VI. Percentages reported by college and professional teams of those athletes who failed their screenings.

<table>
<thead>
<tr>
<th>College</th>
<th>% Failed</th>
<th>0%</th>
<th>1-4%</th>
<th>5-10%</th>
<th>15% &amp; over</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Replies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td></td>
<td>0%</td>
<td>1-4%</td>
<td>5-10%</td>
<td>15% &amp; over</td>
</tr>
<tr>
<td>College</td>
<td>1980</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>College</td>
<td>1983</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Professional</td>
<td>% Failed</td>
<td>0%</td>
<td>1-4%</td>
<td>5-10%</td>
<td>15% &amp; over</td>
</tr>
<tr>
<td>Professional</td>
<td># of Replies</td>
<td>0%</td>
<td>1-4%</td>
<td>5-10%</td>
<td>15% &amp; over</td>
</tr>
<tr>
<td>Professional</td>
<td>1980</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Professional</td>
<td>1983</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

* Limited to Baseball, Basketball, and Football.
VII. Ratio of soft-contact lens wearers to the total of all hard & soft contact lens wearers in college and professional football, basketball, and baseball.

<table>
<thead>
<tr>
<th>College:</th>
<th>Percentages (Soft/Soft+Hard)</th>
<th>100-76%</th>
<th>75-51%</th>
<th>50-26%</th>
<th>25-0%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1980 STUDY</strong></td>
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| Professional:  |                             |         |        |        |       |
|                |                             |         |        |        |       |
| **1980 STUDY** |                             |         |        |        |       |
| Basketball     |                            | 2       | 2      | 0      | 2     |
| Football       |                            | 5       | 1      | 0      | 2     |
| Baseball       |                            | 5       | 1      | 0      | 1     |
| **1983 STUDY** |                             | 3       | 0      | 0      | 0     |
| Basketball     |                            | 6       | 4      | 1      | 2     |
| Football       |                            | 2       | 5      | 1      | 1     |
VIII. Percentage of teams which utilize visual training service as part of their eye-care.
APPENDIX C
PROFESSIONAL HOCKEY SURVEY DATA

Of the twenty-one National Hockey League teams seven responded to this survey (33.3%).

Question #1: 3 of 6 teams indicated that they had vision specialists on the payroll. (2 optometrists, 1 ophthalmologist)

Question #2: 5 of 6 teams indicated that they had vision screening programs (all teams indicated that they had less than 10% of their players fail visual screening requirements).

Question #3: Regarding the % of soft contact lenses worn; all but one player from all the teams combined wore soft lenses.

Question #4: Regarding most frequent problems with contact lenses, the following were listed: a) tearing of lens (soft), b) irritation, c) loss. Additionally, it was noted that several trainers indicated very few problems with contact lens wear.

Question #5: Highly variable ratio of full-time to playing/practice-time contact lens wearers.

Question #6: All teams replying indicated that they kept extra lenses in case of loss or damage.

Question #7: 100% of the teams replying to this survey indicated that they had someone knowledgeable to remove contact lenses from an injured player.

Question #8: 100% of the teams replying indicated that contact lenses were preferable over spectacles in this sport.

Question #9: 3 of 6 teams indicated that they used V.T. in their programs (for visual enhancement; speed of recognition, spatial localization, tracking, and eye/hand coordination).
REFERENCES


