Initiating a sports vision practice

Mark A. Galvan
Pacific University

Recommended Citation

This Thesis is brought to you for free and open access by the Theses, Dissertations and Capstone Projects at CommonKnowledge. It has been accepted for inclusion in College of Optometry by an authorized administrator of CommonKnowledge. For more information, please contact CommonKnowledge@pacificu.edu.
Initiating a sports vision practice

Abstract
Initiating a sports vision mode of practice is a requirement for the optometrist interested in sports vision. Four major areas are presented as follows: Becoming Involved, Methods of Informing Your Drawing Area, Initiating Your Program, and Speaking on Sports Vision. Methods and techniques are discussed which are both applicable and remunerative to the optometrist interested in sports vision.

Degree Type
Thesis

Degree Name
Master of Science in Vision Science

Committee Chair
Norm S. Stern

Subject Categories
Optometry
Initiating a Sports Vision Practice

Submitted for:
Partial Completion of the Degree,
Doctor of Optometry
By: Mark A. Galvan

Advisor:
Norm S. Stern, O.D., PhD.
Acknowledgments:

I would like to thank Norm S. Stern O.D., Ph.D. for his guidance in the preparation of this paper.
ABSTRACT

Initiating a sports vision mode of practice is a requirement for the optometrist interested in sports vision. Four major areas are presented as follows: Becoming Involved, Methods of Informing Your Drawing Area, Initiating Your Program, and Speaking on Sports Vision. Methods and techniques are discussed which are both applicable and remunerative to the optometrist interested in sports vision.
TABLE of CONTENTS

PART I.

Becoming Involved

Introduction 1
Organizations 1
Sports eyewear and services 2

PART II.

Methods of Informing Your Drawing Area 3

Printed materials 3
In-Office techniques 7

PART III.

Initiating Your Program 11

Familiarize and educate yourself 11
Factors to consider 13
Who to contact 14
Services available 15
The visual consultant 16
Approaching organizations 19
Community organizations 20

PART IV.

Speaking on Sports Vision 22

Introduction 22
Topics 24
Sample outlines 24
Sports trivia 29
Sports humor 32
Introduction

Becoming involved in sports vision can be a very exciting and rewarding experience. The involvement can range from working with your son's baseball team to traveling across the United States to screen Olympic athletes. It can be rewarding both financially and emotionally; you are providing a service no other profession can. The services you provide offer the athlete new ways to improve his performance. Many optometrists report it is a deeply satisfying experience to see a patient develop their athletic ability to professional caliber levels, and to know they played an important role in that development. The training is rewarding to the parents as well. The parents watch their children grow and reach new goals previously thought unattainable by their child.

Organizations

Sports vision is a relatively new field expanding at a rapid rate. New organizations are currently being formed at national levels and even also at local levels. The American Optometric Association has recently developed a new subdivision entitled "The Sports Vision Section" (S.V.S.). Baush and Lomb has formed a division which deals with athletes and their needs. Their membership currently totals over 2,000 optometrists and ophthalmologists. Information regarding how to join and what these organizations have to offer can be
These and other organizations are concerned with developing and enhancing contemporary philosophies and ideas and goals to deal specifically with sports vision. Current literature has very few true scientific studies; this is an area which requires immediate attention. Existing articles in the literature deal mainly with testimonials. A stable organization must have a solid foundation, one which is based on a firm scientific and statistical basis. Optometry is the expert with regard to eye safety and protective eyewear. Optical companies design and manufacture new eyewear for the athlete every year. All optometrists should familiarize themselves with the products available. They should determine which products are superior to theirs and which device best benefits the needs of the athlete in his individual sport.

Sports eyewear should provide comfort and protection, as well as good vision, and frequently must be designed to permit prescription lenses to be incorporated, i.e. combat glasses. See appendix A, for further detail. Solomon,(1977) found soft contact lenses should be prescribed for a swimmer rather than recommending hard contact lenses to prevent superficial punctate staining and corneal edema after prolonged work-outs in a chlorinated pool.

With the objective of getting the word out, optometry has many services to offer under the heading sports vision.
These include: special precautions, sports eyewear; specialized prescriptions, vision therapy, educating the public, conducting new scientific studies and performing screenings, etc.

Methods of Informing Your Drawing Area

A problem which perplexes many O. D.'s is how to inform their drawing area of their involvement in sports vision. The methods by which you choose to fulfill this task are limited only by your imagination. Pick ideas which best suit you and the mode of your practice, methods which can easily be incorporated into your image as a practitioner. An outline of methods is given in Table 1.

Printed material

The methods can be categorized into two main groups, printed matter and in-office. Printed matter deals with material you would like your patients to read to inform them you now offer sports vision, in addition to your current armamentarium of exams and services. The most immediate and easily accessible change is to include a question in your case history such as, are you interested in sports? If the patient responds with yes, you may want to stop and express to him some of the visual requirements that sport demands.

Printed pamphlets are an excellent means of conveying the sports vision concept to your patients. The S.V.S. of the A.O.A. has a selection of sports pamphlets available for purchase at a modest price, (appendix B). The pamphlets can be displayed in the waiting or examining room. The exam room has the added advantage of your presence. If the
Table 1. Methods incorporated in communicating public awareness.

I. Printed Material
   1. Case history questions.
   2. Pamphlets.
   3. Office forms.
   5. Telephone book.
   7. Newspaper articles.

II. In-Office Techniques
   1. Receptionist.
   2. Sports eyewear display.
   3. Slide projector presentations.
   4. "Sports corner".
   5. Autographed photos.
   6. Media;
      A. Television.
      B. Radio.
patient has any questions they can be promptly answered by you. The pamphlets and case history questions combine to form an effective means of conveying the message. When examining an athletic coach, offer him several pamphlets and suggest they be placed in his office in a location easily accessible to other coaches. Pamphlets can also be transported to any visual screening you perform.

Include sports vision exam and sports eyewear on the listing of all fee slips, pre-admit forms and entrance questionnaires. Place copies of sports magazines in your waiting room. These may range from Sports Illustrated to more exotic individualized magazines, which may include mountain climbing or scuba diving. The magazines you choose should reflect your geographical terrain. It obviously would not be appropriate to display snow skiing magazines for a practice situated in the desert. The magazines help form a mental preset in the patient, to be followed by your case history questions dealing with sports activities. You may also find it advantageous to maintain copies of this Sports Vision Manual in your waiting room, dispensary and exam room for quick referencing for specific eyewear and/or training techniques.

The phone book and calling card should not be overlooked. Some optometrists, such as Jim Carlson, have found it very productive to have the words "Specializing in Sports Vision" printed on their business card. The calling card is a
valuable tool when not sitting on your receptionist's desk. Leave several with every contact you make. Impressive looking calling cards impress, use them to your advantage.

When you join the S.V.S., which the author's strongly recommend, a notice is sent to your local newspaper, along with your picture. The notice announces your honored membership to the S.V.S. This presents you in the third person and therefore will not be interpreted as advertising by other health care professionals. The announcement aids the community to form an opinion of you as a developing and expanding eye care practitioner who adjusts his practice to suit the changing times. The S.V.S. also includes a certificate ready for framing. This certificate states your membership and bares the A.O.A. insignia.

The next two suggestions have the inexpedience of requiring a partial amount of your time. The first deals with a notebook of signed patient testimonials. The format of the letters should be very rudimentary. Have the patient state their problem, what you did for them, and how they have gained from your services. Have them keep their letter short. Several short testimonial letters are more effective than two or three long letters. The ideal location for this notebook would be in the reception area.

The other suggestion involves a roster of famous professional athletes. This roster could include athletes who wear protective and prescription sports eyewear and can be
any size you wish; you can poke fun and call it your "Top Ten Best Eyewear List". This approach has definite advantages and will keep you in tune with current world sports events. This is expected of an optometrist specializing in sports vision. It familiarizes you with famous athletes in all sports and develops a reservoir of sports trivia accessible for instant recall at appropriate times.

**In-Office techniques**

The second main group deals with in-office techniques you can easily employ. The majority of practices have a receptionist who schedules all appointments. Whether this scheduling is done in person or on the phone, the receptionist could ask a couple of questions. For example, is this for a general visual exam or a specialized sports vision exam? Are you currently involved in any sports activities? The theory is to increase your patient's awareness with regard to your new specialty, sports vision.

Have a display of current available sports eyewear in your dispensary. The display can be a small inconspicuous rack in the corner, on top of the counter, or a six foot circular, enclosed display located in the center of the dispensary. Having the eyewear available for demonstration is a valuable asset. This enables the patient to put his hands on the eyewear you recommend. Also, having the eyewear in the office decreases the chances of a bad fit due to error in measurement. A bad fit in sports eyewear can cost you time, money and a patient and/or his referrals.
Slide projector presentations are very effective. A housing which couples the slide projector with screen is very useful. The location most beneficial is in the waiting room. The presentation can be as varied and individual as you like. You may want to use a series of titled presentations to educate the patient. An example series follows:

1. Various types of eyewear available.
2. Current vision therapy areas employed in sports vision.
3. Individualized sporting events and the demands they require.
4. Update patients on current trends in the profession.
5. New and major services your practice offers.

In your examination room instead of using a Marsden ball, try a Marsden baseball. Print numbers and letters on the surface. The stitching of the seams serves as an excellent fixation target. Roderick Gillilan,(1980) finds this technique extremely helpful in his practice.

A "Sports Corner" of your exam room offers many advantages. The corner of the room will harbor all your sports equipment, basketballs, hockey pucks, baseball bats, and skis, etc. This equipment piled up in the corner will spark conversation regarding sports. It can play an important role when demonstrating the motor and perceptual techniques demanded in sports tasks. Runninger(1979) keeps a golf ball in his desk drawer and uses it to demonstrate to golfers the advantages of a golfer's...
prescription during chipping and putting, Runninger (1979).

Autographed pictures from professional athletes you have trained is very impressive; however, this may pose a problem for the optometrist who is new to sports vision, or bound by a legal contract not to mention athletes they have trained. There is a method of getting around this problem though, have pictures of famous athletes who have received training by other optometrists.

The next two suggestions deal with a more subtle approach. Use an eight by ten glossy of your wife wearing ski goggles, with a mountainous, snowy-white background, or leave your golf cap on your desk, in open view, with Wednesday printed on the front.

The author has discussed several suggestions you can incorporate into your practice. The majority were designed to be inexpensive and flexible enough they can be incorporated into most practices with limited effort. The next suggestion may not be appropriate for all optometrists, but will be discussed for the sake of thoroughness.

A new area of communication which more and more optometrists are taking advantage of is radio and television. One of the early pioneers of television is William Moshowitz, O.D. Several years ago Dr. Moshowitz, who is from Summerville, New Jersey, appeared on a television show called "That's It In Sports". Since then other optometrists have followed in his footsteps by appearing on television - Kaufman,
Hubler, Sikorski and Getz, Hubler (1981). Radio and television media demand specialized techniques of presentation. A descriptive vocabulary helps the audience visualize your comments; professional terminology must be put into laymen's terms, Hubler (1981). If television interests you, the author recommends you read the article by Hubler, referenced above. This article lists suggestions and tips beneficial in this mode of communication.
Initiating Your Program

Now that the public is becoming aware of your sports vision, you should develop a sound structure to your program. This section will discuss various ways to become involved; how to initiate programs, who to contact when approaching associations and organizations, etc.

**Familiarize and educate yourself**

You must familiarize yourself with specific sports in which you would enjoy working. Most optometrists are familiar with the more popular sports, such as football, basketball, etc. and this poses no problems. But, he should also be knowledgeable of the sports specific to his region. Some sports are specific for a particular region in the United States. An example is a sport called Tag - Tieing. The sport involves horses and running. To the best of the author's knowledge, this sport is specifically for the Pacific Northwest. The S.V.S. of the A.O.A. is formulating a manual listing an estimated 200 various sport activities and their requirements. The manual will be made available to all members in the near future.

Educating yourself to become an expert involves several tasks. The term expert encompasses knowledge of
the visual skills required for a specific sport. Tracking, motilities, saccades, rotations, versions, ocular dominance, visual reach, grasp and release, and the list goes on. Some play more important roles than others.

You should teach yourself terminology. This includes terms and expressions which are not considered proper grammatical english, and you can't find them in Sports Illustrated. This type of education can only stem from the playing field. It would be nice if optometry could meet all patient requirements from an armchair, but this impossibility is quite apparent. The optometrist must periodically visit the playing field. He should be familiar with the rules of the game. Special equipment requirements, environmental factors and climate; (e.g. mountain climbers and skiers) subject themselves to high amounts of ultra violet and electromagnetic radiation.

There are a variety of sources available to you to facilitate your education. We have just mentioned visiting the playing field. The library is another excellent source. They have a book on almost every conceivable athletic sport. You can subscribe to a sports magazine or sports journal. These can serve a double purpose; after you have completed reading them, place them in your reception room. There they serve to educate your patients as well.

Coaches serve as a good source. Invite a coach to lunch. Discuss his favorite sport. This doesn't necessarily
have to be the sport he is currently involved in, but being his favorite he will be more than happy to discuss it. He will also be inclined to overlook any ignorance on your part. The coach also serves as an excellent source for referrals in the future.

Factors to consider
When initially instituting your program, time and money are your two most important considerations. Any amount of time from an established practice costs that optometrist money. On the other hand if you are a young, new, energetic optometrist you have plenty of time, but no money. When considering organizations to approach, efficient and productive connections must be established. Efficient implies an organization which can supply you with a large sample of patients. Productive in that you won't have to sacrifice current income while providing services to the organization. Garner, (1979) reports 30,000 dollars of his gross income per year can be attributed to his sports vision practice. Garner is a prime example of not having to set aside monetary goals in order to practice something you enjoy. When instituted properly, a planned, organized format sports vision practice can prove quite rewarding.

Who to contact
An educational institution fits these requirements because when you establish one contact you literally disclose hundreds of patients. Schools lend themselves to our program and offer several advantages. If you travel repeatedly to one location, you can most likely have your instruments
assembled in a delegated area for screenings, etc. The number of referrals is unlimited. You become acquainted with the staff and more familiar with loop holes involved in running an institution. This could be of value when contacting new institutions in the future.

There is basically three levels to choose from; college, high school, and grade school. In the grade school you are dealing with younger people. You will be limited to the basics with little room for latitude. As the grades progress, so do the children. At the high school level the number of various contact sports increase. The children are older and can accept more responsibility. However, if responsibility is a pre-requisite for the administration of sports vision therapy, it is individual volition coalesced with self determination which is mandatory for a successful program. The students therefore should be subjected to a screening before being accepted into your sports vision therapy program. This type of screening should be required through the sophomore year of senior high school. Most juniors and seniors have decided whether to pursue an active career in sports. The athletes who decide to continue on make some of the best patients a sports vision optometrist could ask for. They are young, energetic and hard working individuals. In some cases they work twice as hard on all therapy you prescribe. Needless to say, the outcome is a phenomenal visual performer who
manifests himself on the playing field as a superior athlete, one who forms the morphology of a human calling card for you. The college athlete is the same way, but even more so. Since a high school athlete is that good and a college athlete even better, the professional athlete must be fantastic to work with. Unfortunately this is not always the case when dealing with professional athletes. True, they are good workers and yes their performance does improve, but they are usually not a source of referral. According to Getz (1980), with the state of the art as it is, professional teams don't like the word getting out that their athletes are receiving special training. Especially if this deals with "enhancement" training. Therefore, from the view point of a practice builder, professional teams are not the course of action to pursue, if you are seeking to build the sports vision section of your practice. It is more feasible for you to start with senior high schools and college level athletes for the reasons described above. Practicing in the spotlight of glamour with professional athletes can come later, after you are established in the field.

Services available

According to Runninger (1979), we know that theoretically any increase in visual acuity, accuracy and rapidness of the visual process to the respective cortical areas will increase the athletes' performance. Therefore, optometry has a professional responsibility to make the athletes and their coaches aware of this service which is available to them.
This can be accomplished by communicating with the institutions previously mentioned. Some of these services include: a professional vision consultant, vision screenings, thorough eye exams, vision kits, assorted and specialized eyewear and talks/conferences.

The visual consultant

The first service we will discuss is the role of the vision consultant. According to Gerald Thomas (1979), he says, "The role of vision consultant is one which I enjoy tremendously. Aside from the professional aspect of being a great practice builder, it affords personal satisfaction". The role of vision consultant is one which is quite diversified. Some of the duties entail vision exams, screening the athletes for visual dysfunctions, prescribing the most beneficial prescriptions for the athlete, be it contact lenses, spectacles, goggles or other protective eyewear. It also entails visiting the team during practice sessions to offer suggestions which could improve the athletes team performance based on his visual attributes. Another duty which is occasionally required for professional athletes is counseling. If an athlete has achieved skill required of professional competition, and he has a visual limitation, he is probably well aware of it. Therefore, when you suggest to him he has a visual dysfunction, he may believe you are jeopardizing his career. Counseling is therefore indicated. True, this is a rare occurrence, but it is one which the visual consultant must
be prepared to deal with. The last duty to be discussed is the one to Uncle Sam. As a visual consultant you will have additional tax requirements.

Other duties include vision exams. A vision exam is inexpensive compared to tuition, equipment, books and supplies and produces notably the best results. The exams may include special testing which is not currently in your routine exam sequence (Getz 1978, Runninger 1971 & 1975, Teig 1980, Lee 1977). The sports vision consultant should be an expert with regards to eyewear from contact lenses to protective eyewear. Luskin (1980) reviews the products available on the market today.

Vision kits are an optional service you can provide as a vision consultant. Gillilan (1973) suggests the following be included in all kits: several contact lens solutions a contact lens case, an assortment of screws for temple barrels, and an optical screwdriver, etc. The kit is designed for the trainer or the teams manager's box, which the manager has in his possession during practice and games. Be sure and have your name and phone number written in plain sight on the vision kit.

As a visual consultant the optometrist should be prepared to speak to groups or organizations. Once you are established you can figure on being asked several times a year. Presenting lectures to organizations will be discussed
in further detail later on in this paper. The last general duty of a visual consultant to be discussed is setting up screenings. Several articles (Garner 1977, Bauscher 1968, Martin 1970, Runninger 1975, Teig 1980, Getz 1978, and Parker 1980) have discussed the various screening programs that can be used.

Gillilan (1980) reports that referrals are the most valuable spin-off from screenings. Currently where screenings are not administered, it is the coach who refers the athletes. The coach hand selects the players he feels has a vision problem. Based on the premise that some athletes referred do not have a problem, we can safely draw the assumption that athletes who do have a vision problem are overlooked. It must be noted that we are dealing with a very small population in which an educated coach correctly refers a visually dysfunctional athlete. The large majority of coaches across the nation are ignorant to the role of vision in sports. As a result, thousands of athletes are missed every year who could be helped. Estimates range as high as twenty-eight percent of the athletes who are subjected to taking a visual screening fail, based on a visual acuity of less than 20/40. Twenty to twenty-eight (20-28%) percent is an alarming figure and this deals only with visual acuities. It staggers the mind to think how many athletes would fail if other factors were included; motilities, far near saccades, lens and prism rocks, accommodative and convergence relationships, etc. Twenty to twenty-eight percent may be only the "tip
of the iceberg". The major factor to bare in mind when dealing with screenings is to charge substantial fees. You are a professional, an expert in this field. No where can you acquire the services of an expert for free. Optometry should not be the exception to the rule. You buy their tickets to their games, they pay your fees for your services. Ramon Burstyn (1979), says, "his relationship with the University of Texas has always been on a purely professional and business basis, and he believes this is essential to success". Again, the bottom line is charge.

**Approaching an organization**

As for approaching the organizations, Jim Carlson (1979), has come up with a direct and straight forward presentation. He suggests visiting the organization in person rather than calling on the phone. This concept has three strong advantages; first, you already have your foot in the door. Second, you have a first hand look at their operation. This gives you a chance to evaluate them and determine if you want to be associated with them. Third, it gives them a chance to look you over. This can be a big plus for you. Carlson says in most cases you can meet with the top man. Usually this is not the head coach or the manager you seek, but rather the team orthopedic surgeon. At any rate, Carlson estimates you have approximately ninety (90) seconds to get the "meat" of your message across. Carlson's presentation goes like this: "I am the Director of the Totem Lake Vision Center. This is strictly a diagnostic center, and we are
particularly interested in the field of sports vision. My purpose today is simply to make you aware that such a facility exists in your own backyard. We are not interested in disturbing any current eye care program you are utilizing and satisfied with. We are only interested in enhancing any programs in whatever way we can". He then invites them to visit the clinic and lunch. Carlson reports this was a very effective approach with all groups he spoke to.

Dr. Carlson established next to a hospital with three ophthalmologists. The building he set up in also has an ophthalmologist, which brought the total to four. After only three years Dr. Carlson is doing better than breaking even. This includes a generous salary he pays himself and a huge monthly overhead. Oh yes, since Dr. Carlson has opened up, the number of surrounding ophthalmologists has gone from four to three. Buying a coach lunch could possibly be the highest yielding investment you'll ever make in your practice.

Community organizations

Another method of getting involved is starting a sports vision organization in your own community. This can be easier than you think. All that is required is a telephone. Call several doctors and organizations and ask if they would be interested in participating in such a program. Tell them it would be for their benefit and the benefit of the community as well. You should have no problem sparking an interest. Optometry should have the strongest representation.
Therefore, invite several optometrists. Also invite some medical doctors. A good selection should include a general practitioner, an orthopedic surgeon, a couple of specialists in sports medicine and an osteopathic physician. Some physical therapists who specialize in sports, a dentist, and as many coaches, trainers and managers as you can contact. An organization comprised of members of this caliber can produce many valuable contributions to sports and themselves. The advantages include inter-referral, peer consent and unity within the community. Provide the medium for better communication between practitioners which leads to stronger relationships. It can also serve the purpose of educating other professions and therefore develop a higher awareness of what is going on in the community. Best of all it builds strength with the professions involved in sports vision.

The last suggestion constitutes joining pre-existing organizations. This can be local organizations such as Kiwanas, Elks, or the American Legion, etc. Or the organizations can be on a national level. Take Bausch and Lomb sports section. This organization currently has over 2,000 members. The S.V.S. organization is one which the author's highly recommend you join. This is our main line of survival. The S.V.S. can provide you with various information; the newest and most modern techniques, specialized therapy for specific sports, newsletters, and the list goes on. See Appendix A. on the S.V.S. at the back of this manual for a more indepth discussion.
Introduction

Lecturing can be a very exciting part of your practice. This section will deal with some suggestions on how to present yourself. Some suggestions are who to speak to, various topics of discussion, two sample outlines, some sports humor, and a list of pot pourri you may find useful for a lecture.

When speaking on sports to the public, always keep in mind you are the only means of education with respect to sports and how vision can improve and enhance the audience's performance. Also, you are the sole link between sports and the profession of optometry. A well presented lecture benefits you and the image of optometry in the public's eye.

How do you present yourself? Obviously dress for the occasion. A good speaker always begins with a good joke. This serves several purposes. It breaks any tension in the air that may be present, it sparks the audience's interest in what you have to say, therefore devoting more attention to you, and it serves to put the group, as a whole, on your side. If someone likes you they have a tendency to be open minded and are less likely to form any "snap" judgements.

Now that you have their attention you can't afford to lose it. Maintaining their attention can be done many ways.
The tone of your voice plays an important role. We have all heard the expression "if you want to capture someone's attention, whisper". Although this is true, it does not apply to lecture halls. On the other extreme, shouting is interpreted as a defense mechanism, used when trying to justify an opinion. Your individual task is to find a medium at which you communicate the most efficiently. Your tone of voice should convey authority, knowledge, interest, and most importantly, sincerity.

Body language plays an important role. Two of the most dynamic speakers of optometry are Irving Borish and William Ludlam. Both exhibit an exorbitant amount of body language when lecturing. Borish goes through a pair of shoes every lecture and Ludlam would not be able to lecture if he had to keep his hands in his pockets. Facial expression, eye contact, pointing at individuals in the audience and asking the group questions, whether an answer is anticipated or not, are the other ways of keeping an audience's attention. Body language conveys inner feelings. If you are excited, they will be excited too. It's a very strong tool of lectures.

A few words on the financial aspect of lecturing. Who do you charge and how much? The how much is up to you, but remember, you are the expert; no other profession is more knowledgeable than optometry. The authors suggest starting with an organization you wouldn't charge anyway. (e.g. The local P.T.A.) This way the word will spread to other organizations
you would normally charge for your services. Your reputation will grow, but not at your expense.

**Topics**

You have an unlimited number of topics if you stop and think about it. Several to get your imagination started are as follows:

1. The need of good vision for sports.
2. Increasing eye injuries and protective eyewear.
4. Safety eyewear and you.
5. Sports vision therapy.
6. Basic functions of the eye and their role in sports.

Ten others are listed in Optometric Management, June 1978.

The next step is to formulate an outline of each topic and then practice, practice, practice. The best lectures are those which have been said a thousand times in the mind of the lecturer.

**Sample outlines**

Two sample outlines are offered here. The first from an article by Runninger (1980) and the second from a paper presented by Donald Pitts (1974).

---

**How to Utilize Vision for Better Performance**

I. Keep your head in position:

A. Keep the head in position to help keep the eyes on the ball.

B. Both eyes are required for depth perception.

C. Catch an object with one eye open, then both; the result is obvious.
II. Visual concentration:
   A. Visual concentration is more important than keeping your eyes on the ball.
   
   B. Visual concentration via peripheral vision.
   
   C. Toss an object in the air and watch it as you catch it in your hand. Repeat the task while looking straight ahead and use your peripheral vision.
   
   D. Conversely a football receiver visually concentrating on a linebacker will "muff" the reception even though his eyes are on the ball.

III. The eyes lead the body:
   
   A. The eyes are the major input for body balance and spacial localization.
   
   B. If the eyes come off their target too soon, they take the head and body with them.
   
   C. Example: Golfing requires eyes and concentration on the ball.

IV. First thing first:
   
   A. Concentrate visually on one thing at a time.
   
   B. It is impossible to divide concentration.
   
   C. Example: Tennis player with his eyes directed at the ball and his concentration on the opposing player. Result is a missed shot.

V. Reach, grasp, release:
   
   A. Athletes must perform the reach, grasp, release concept. Example: Infield baseball player.
E. He must visually reach to pick up the flight of the ball for direction and velocity.

C. He must grasp it, lock on visually and track it.

D. Catch the baseball, release visual contact on the ball and then visually reach for the first baseman.

VI. Short spans of concentration:

A. The shorter the period of task, the more intense the concentration.

B. Concentration is so intense it can only be maintained a short period of time. Example: Baseball batter.

C. Conversely as the period lengthens, the quality of concentration decreases. Example: Football receiver wide open and plenty of time to catch the ball, shifts his concentration to field position and localization of defenders. Result is an incomplete pass.

VII. Small targets - big results:

A. The smaller the target of visual concentration, the more accurate is the resultant performance.

B. Concentrate on a specific point using more accurate central vision rather than peripheral vision.

C. Example: Focus in on the first baseman's button on his chest rather than the first baseman.

This article lends itself very well to a lecture outline. Make your own additions or whatever you feel comfortable with.
The next outline is taken from an article by Donald Pitts (1974).

Basic functions of the eye and their role in sports.

I. Introduction:
   A. Vision is a main ingredient to a formula for success in any sport, be it tennis, golf, football, etc.
   B. The eye develops from the brain and is a major source of input to the brain's functions.
   C. Basic ocular anatomy; cornea, lens, retina, choroid and macula.

II. Visual acuity:
   A. Top athletes have excellent visual acuity.
   B. Visual acuity is the catalyst to the vision process.
   C. Visual acuity is the reason so many top professionals wear vision corrections. Example: Billy Jean King, Arnold Palmer, Reggie Jackson, etc.
   D. Decreased visual acuity leads to decreased performance.

III. Muscle balance:
   A. Six extraocular muscles for precise eye movements.
   B. Any misalignment leads to chaos, diplopia and decreased performance.
   C. The medial rectus, gram for gram, is the strongest muscle in the whole body.
   D. 1,000 times stronger than necessary to move the eyeball.
IV. Depth perception:
A. Every sport requires depth judgements be made.
B. Two spaces, physical space and visual space.
C. Physical space can be measured linerly.
D. Visual space is learned from physical space and normally the two correspond.
E. Demonstrate silo effect: Hold both thumbs in front of yourself. Cross fuse; O.D. looks at left thumb and O.S. looks at right thumb. Fuse the two into a third central thumb which appears between your right and left thumb. Now spread the two thumbs apart and note the silo effect. This demonstrates a conflict between physical and visual space.
F. Motion, parallax clues. During lateral head movements, near objects move in the opposite direction. Distant objects move in the same direction.

V. Sense of balance:
A. Three systems incorporated in a hierarchy.
B. The first is the afferent-efferent feedback system, or the "seat-of-the-pants".
C. Second, the vestibular system for angular and radial acceleration as well as gravitational. This can override the feedback system.
D. Third is the visual system. This can override both the feedback and vestibular systems. Therefore the visual system provides the highest order of orientation.
VI. Summary and closing statements:

A. The athlete operates with inputs from all sensory systems and vision appears to be the most important single sensory system because of its hierarchical position.

Sports trivia

The last section of this chapter deals with bits of trivia phrases and some sports humor you will find useful to incorporate into your lectures.

Vision related phrases:

1. Vision is a learned sensory input and therefore can be trained. (e.g. Leon Revien, 1978)

2. Everytime you move your head you disturb the balance system. This distracts your concentration on the object of regard and leaves margin for error. (e.g. Getz, 1978)

3. Except for mental errors, 100 percent of an athlete's errors are found to stem from a visual misjudgement. (e.g. Leon Revien, 1978)

4. In tennis, a person with a visual problem always reports the ball is moving too fast. (e.g. Moskowitz)

5. A fastball pitched at 100 MPH takes 0.4 seconds to reach the catcher. It physically takes 0.2 seconds for the batter to come around with the bat. This leaves 0.2 seconds for the batter to make all decisions of regard. The speed, rotation, and direction. If the batter can make these three judgements in half the time, (0.1 seconds) the ball will appear three (3) times bigger. (e.g. Leon Revien, 1978)
Sports and athletic quotes:

1. One optometrist reported that a quarterback with 20/70 visual acuity and a twenty-five (25) percent completion record waited until three days before the end of the season to see an optometrist. (e.g. Jack Runninger, 1975)

2. A coach has no problem identifying an athlete with bruised ribs, but an athlete with a visual problem can easily go unnoticed.

3. Pancho Gonzales says, "When a tennis player gets older, it's not his legs that go, it's the eyes". (e.g. Leon Revien, 1978)

4. Billy Jean King says her spectacles are as much a part of her as her right arm. (e.g. Jim Scott, 1973)

5. Arnold Palmer says his prescription definitely helps him. He's able to see greens better, visualize his putts better and judge distances to greens better. (e.g. Jim Scott, 1973)

6. Famous athletes who wear prescriptions are: Arthur Ashe, Arnold Palmer, Billy Jean King, Reggie Jackson and Kareem Abdual Jabbar (protective). (e.g. Jim Scott, 1973)

7. Jimmy Conners claims he picks up the rotation of the ball as it leaves his opponents racquet. (e.g. Leon Revien, 1978)

8. One optometrist reports his greatest and most immediate success is with tennis players. (e.g. Moskowitz)

9. Almost universally, coaches and spectators alike fail to fully appreciate the significant role played by
binocular acuity in athletic performances. (e.g. Joseph Paterno, Coach at Penn. State)

10. John McKay, former U.S.C. football coach said, "O. J. Simpson is the only man I have known who can come back to the huddle and tell who made the key blocks". (e.g. Jack Runninger, 1975)

11. The first known player to wear glasses in major league baseball was Henry White. He pitched for Boston, Cincinnati and Detroit from 1877 - 1886 with a 227-167 record. (e.g. Jim Scott, 1973)
SPORTS HUMOR

IN HIS BOOK, THE HERMAN HICKMAN READER, Hickman writes:
We alwayd had a lot of trouble with Princeton when I was coach­ing at Yale. One game everything went wrong. Yale would fumble, and Princeton would recover. Princeton would fumble, and Princeton would recover. We would ten yards on an off-tackle play, then be penalized 15 yards for illegal use of the hands. Nothing we could do was right. Finally I became so disgusted that I shouted to Jim Ryan, our quaterback, "Go ahead and kick the ball, Jim. They aren't going to give us anything anyway."

The referee heard me and walked over to where I was sitting. "That is going to cost you, Hickman," he said. "Coaching from the sidelines." He took the ball and walked off ten yards.

I jumped up and ran out on the field and said, "Why you dumb so-and-so, you don't even know that coaching from the sidelines is a fifteen-yard penalty!"

"listen, Hickman," he said, "for the kind of coaching you're doing, it's only ten yards!"

-Published by Simon and Schuster

A traveler strolled up to a fisherman. "Having any luck?"
"Pretty good," replied the angler. "I haven't had a bite in three hours."

"What's so good about that?" asked the amazed traveler.
"You see that guy over there? Well, he hasn't had a bite in six hours."

-Victorian Magazine
We'd had no bites in an entire evening of fishing. As darkness fell and we pulled toward shore we passed a couple in another rowboat. "Did you have any luck?" we called.

"No," no said the young man gloomily.

"What kind of bait were you using?"

For a moment the young man was silent. Then he said, "I wasn't fishing."

-Kenneth E. Pollard

One woman golfer to another: "You're improving, Muriel. You're missing the ball much closer than you used to."

-George Hamilton Green cartoon in the American Magazine

As we waited to tee off on the 18th hole, a man in the foursome ahead drove three successive balls into the water. In a fury he picked up his golf bag and hurled it into the lake, then stamped off toward the clubhouse.

We weren't surprised to see him sheepishly return a few minutes later, roll up his pants, take off his shoes and wade in after the clubs. It was what we'd expected.

But to our amazement, he fished out the bag, unzipped the pocket, took out his car keys, flung the clubs into the water again and stalked off.

-Louis H. Williams

Editor Frank Crowminshield was an inveterate golfer, making up in zeal what he lacked in skill. In a golf match he was all square with publisher Conde'Nast going down to the green on the 16th hole. He tugged his caddie's sleeve and asked loudly, "Is that my dear friend's ball in the trap or is
the son-of-a-so-and-so on the green?"
-Bennett Cerf, Laughter Incorporated (Garden City)

When my son, a Marine staff sergeant, was home on leave, he was quite unexpectedly left in charge of his three-month-old niece for an afternoon. All went well at first; then a crisis and the sergeant put in a frantic call to his uncle, who took care of the problem in man-to-man fashion.

"First," he said, "place the diaper in position of a baseball diamond, with you at bat. Fold second base over home plate. Place baby on pitcher's mound. Then pin first base and third base to home plate." It worked.
-Helen A. Ryan

"One of my favorite golfing yarns," relates Bing Crosby in his book Call Me Lucky, "is the story of Lou Thomas, a fine putter, but a man so meticulous on the greens, so insistent on silence, that playing with him was sometimes a trial. One day he had a 12-footer to sink on the 14th green. Lou surveyed his putt from the upper and lower angles, tested the wind, spent five minutes reading the contours, the grass, even the roots. He picked up some loose blades of grass, some lint, tiny bits of sand, then turned to his caddy and asked, "Was this green cut this morning?"

"Yes," replied the caddy. Whereupon Lou putted and missed. "His opponent, who had spent this long interlude impatiently leaning on his putter, stepped up to his ball and stood over it waggling his putter. But suddenly he stopped
and, turning to Lou's caddy, inquired: "What time?"

-As told to Pete Martin, 1953 by Bing Crosby
and published by Simon and Schuster
Summary and Conclusions:

In summary, the purpose of this paper was to facilitate the optometrist interested in sports vision in embarking on his new specialty. The most perplexing problem for many optometrists is where to begin. The material is presented in a manner to give the optometrist a starting point, and to facilitate the procedural aspects of becoming involved. It is the hope of the author, that this paper will give rise to the interest of other optometrists.

Incorporating the methods discussed should enable the optometrist to adapt his practice, to include sports vision.
Appendix A

A. Pamphlets of the A.O.A. Sports Vision Section:

1) Gaining the Extra Edge in Sports Through Vision
2) Another pamphlet is currently being drafted.

Write: A.O.A., Sports Vision Section, 243 North Lindbergh Boulevard, St. Louis, Mo. 63141

B. Bausch & Lomb Pamphlets:

1) Vision and Tennis
2) Vision and Football
3) Sports Sight
4) Sports vision newsletter about the Council on sports vision, printed quarterly.

A. Protection sports eyewear:

1) "Combat Glasses", Rainbo Prescription All-Sport Eyeguard.
2) "Sports-Specs", Martin Wells of Australia.
3) Sport glasses, Carrera International.
4) "Fashion Eye Protector", Ektelon.
5) "All-American Athletic Frame", Criss Optical Manufacturing Company.
6) "Yank Sportsman", Criss Optical.
7) "Norsport II", Criss Optical.
8) "Off-the-Nose Eyewear", Space Age Optics.
Bibliography


