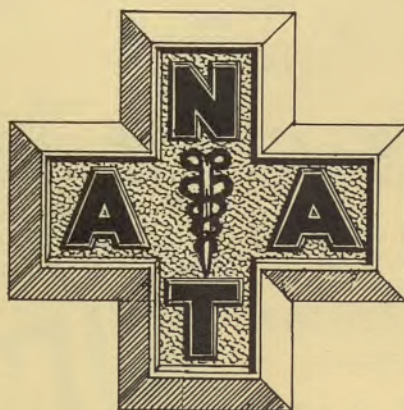


The

APRIL 1959

**J
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OF THE
**NATIONAL
ATHLETIC TRAINERS
ASSOCIATION**



10th ANNUAL MEETING, COLUMBUS, OHIO

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N.A.T.A. 10th ANNUAL MEETING JUNE 15, 16, 17, 1959

Mr. Ernest Biggs, National Program Chairman for the National Athletic Trainers Association has announced the following tentative schedule for the 10th annual meeting which will be held at the Deshler-Hilton Hotel in Columbus, Ohio.



Deshler-Hilton Hotel

SUNDAY, JUNE 14

- 4:00-
- 6:00 Registration
- 6:00 Social Time and Buffet

MONDAY, JUNE 15

- 8:00 Registration continues
- 8:45 General Session
Comments by: "Whitey" Gwynne, University of West Virginia, National Chairman of N.A.T.A.
Ernest B. McCoy, Dean and Director of Athletics, Pennsylvania State University, Chairman N.C.A.A. Committee "Sports Injuries and Safety"
- 9:30 "Anatomy and Kinesiology, Head and Trunk," slides by R. J. Murphy, M.D., Ass't. Team Physician, Ohio State University
- 10:00 "Pathology of Trauma," Richard Patton, M.D., Ass't. Team Physician, Ohio State University
- 10:30 Break

- 10:45 "Indications for Therapeutic Modalities," R. D. Burk, M.D., Director Ohio State University Rehabilitation Center
- 11:45 "Head Injuries." Speaker to be announced
- 12:15 Lunch
- 1:30 "Psychological Aspects of Therapy in Athletes," speaker to be announced
- 2:00 "Physical Basis for Restriction of Participation in Athletics," Loyal W. Combs, M.D., Team Physician, Purdue University
- 2:30 Panel: "Conditioning for Athletics"—will cover football, baseball, basketball and track. Proposed speakers are Rawlinson, Wojecki, Medlar and Nesmith
- 3:30 National Meeting

TUESDAY, JUNE 16

- 9:00 "Anatomy and Kinesiology of Lower Extremity," slides by R. J. Murphy, M.D.
- 9:30 "Injuries of the Foot and Ankle," J. D. Wilson, M.D., Orthopedic Surgeon
- 10:30 Break
- 10:45 "Recognition of Common Skin Disorders," James H. McCreary, M.D., Dermatologist
- 11:30 "Management of Foot and Ankle Injuries," Joseph Doller, D.S.C., Trainer Chicago Cardinals
- 12:15 Lunch
- 1:30 "Injuries of the Knee," Clyde W. Dawson, M.D., Orthopedic Surgeon
- 2:30 "Harmful Side Effects of Drugs," Arthur Tye, Ph.D., Associate Professor Pharmacology, Ohio State University
- 3:00 Break
- 3:15 Panel: "Management of Knee Injuries." Panel members to be announced

WEDNESDAY, JUNE 17

- 9:00 "Anatomy and Kinesiology of Upper Extremity," Slides by R. J. Murphy, M. D.
- 9:30 "Shoulder Girdle Injuries," Richard Patton, M.D.
- 10:00 Panel: "Unusual, But Important Injuries in Athletics," L. W. Combs, M.D.; Richard Patton, M.D.; Robert Murphy, M.D.
- 10:45 Break
- 11:00 Panel: "Management of Injuries to Upper Extremity," panel members to be announced
- 11:45 "Injuries in Athletics," Richard Patton, M.D.
- 12:15 Adjournment

Saturday and Sunday afternoons will be used for National Committee meetings. All regular sessions will be held in the Hall of Mirrors of the Deshler-Hilton Hotel with the manufacturers' displays being set up in the corridor leading to this meeting room.

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AN OPEN INVITATION

The National Athletic Trainers Association is pleased to extend, to other than their members, an opportunity to subscribe to *The Journal*, the official publication of the association. This quarterly magazine serves as a publication source and clearing house for the research and writings about topics pertinent to the casual factors, prevention, or treatment, of athletic injuries. In previous issues have been articles authored by member athletic trainers, physicians, physiologists, physical therapists, corrective therapists, and others vitally interested in improving athletic performance or furthering the health and safety of the young men entrusted to their care. It is the sincere hope of the association that through the interchange of information by *The Journal* that all students participating in sports programs in secondary schools and colleges of the county will benefit by the greater knowledge available to us.

We hope that you will want each issue as a reference for your staff and for your student majors. Yearly subscription price is two dollars, which should be sent to Wm. Newell, National Secretary, 1104 Beck Lane, Lafayette, Indiana.



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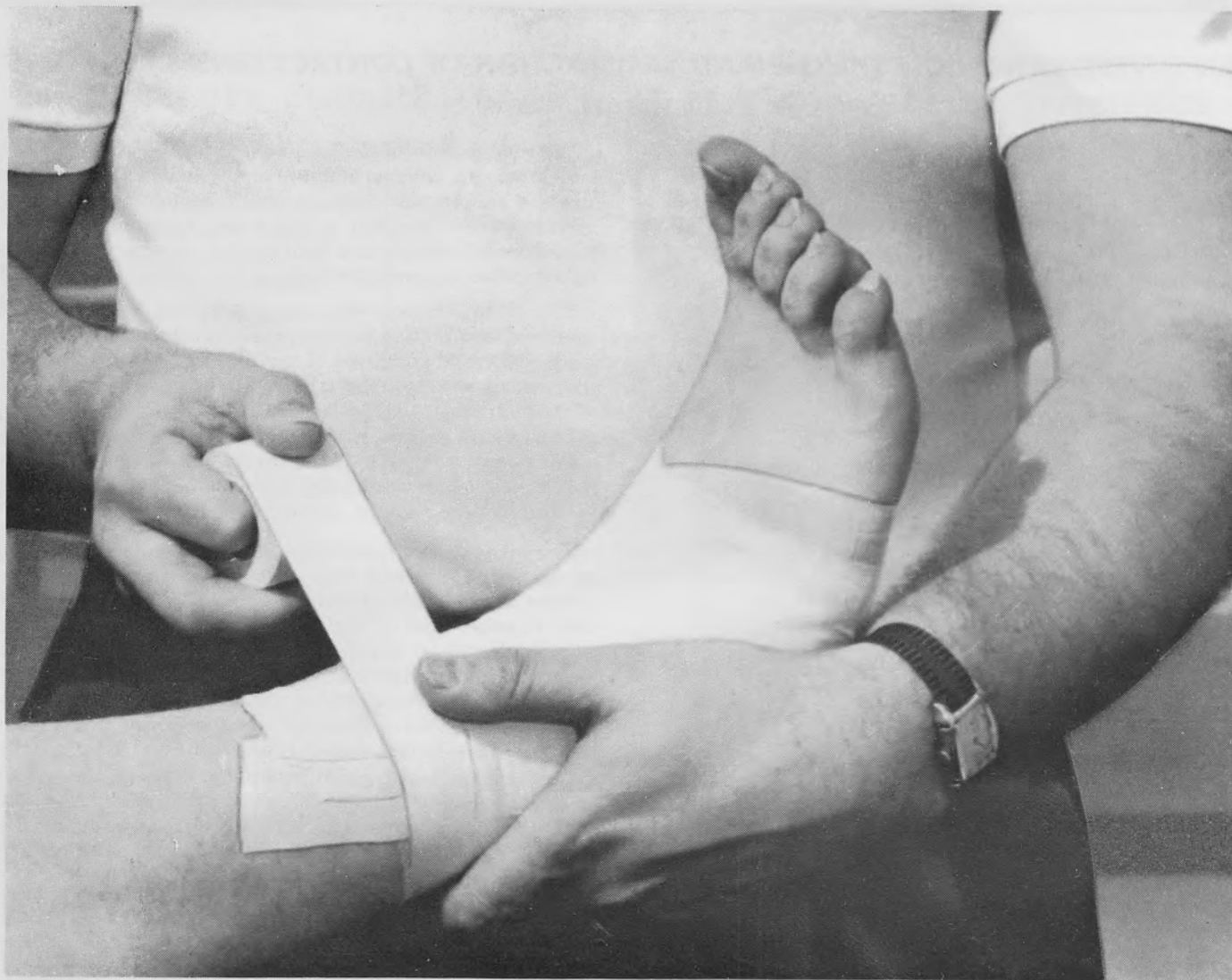
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AN INVESTIGATION ON THE USE AND SATISFACTION OF CONTACT LENSES IN SPORTS*

By HERBERT S. PLAYER, O. D.

DR. HERBERT S. PLAYER graduated from the University of California School of Optometry in 1934. He was appointed chairman of the first contact lens committee of the California Optometric Association in 1946; he is currently a member of the Contact Lens Committee of the AOA. A former clinical instructor in optometry at the University, Dr. Player conducted its first post-graduate course in contact lenses in 1946.



SINCE THE ADVENT of the plastic contact lens, about nineteen years ago, there has been an increasing general acceptance of the value of contact lenses in sports. The lightweight transparent, almost unbreakable qualities of the plastic lens made possible a widespread acceptance which the earlier glass lens could not attain.

For almost two decades, therefore, the interested observer of news of the sports world has been aware that certain athletes of prominence wear contact lenses. It is the purpose of this study to investigate to what extent and to what degree of satisfaction contact lenses are in actual use on the playing fields of colleges and universities today.

The subject is of widespread interest; ours is a sports-minded nation. In season baseball, football, and basketball teams are closely followed by millions of fans. Not infrequently an important game is won because of the scoring done by a highly competent player who wears contact lenses. A player with poor vision would not have been able to play at all a generation ago. Today many fathers of athletically inclined boys are interested in the possibilities of contact lenses. Fathers who were prevented from participating in sports because of myopia want their sons, equally myopic, to enjoy the advantages of contact lenses and be able to compete on an equal basis with their classmates.

During the past fifteen years the writer has had experience in the fitting of contact lenses for persons from fourteen to eighty-three years of age. Many of these were young people who competed in baseball, football, basketball, water-polo, and other sports. The individual case-histories of some of these young men and women make highly interesting reading because of the personality development made possible by the use of the lenses. Each of the stories is different; yet there is a similar pattern in all: the enabling of an individual to reach satisfactory goals. The use of contact lenses often brings about benefits over and beyond the ability to take part in sports.

There are many obvious advantages in the use of contact lenses instead of eyeglasses for sports. Although spectacles can be made of safety-glass or plastic, mounted in sturdy rims of metal and rubber, they have severe limitations. Spectacles are often a mental and physical hazard. Special headgear designed to protect the glasses, together with the frames, seriously restrict the player's peripheral field of vision. Reflections from the sun can be bothersome; spectacle lenses become dirty from mud and dust, fog up on cold days, get wet in the rain. All of these troubles are eliminated with the use of contact lenses.

In order to determine the actual present-day use of contact lenses in college and university competitive contact sports a survey was made to obtain certain types of data. Inquiries were directed to the Head Athletic Trainers of a number of colleges and universities, members of leading Athletic Conferences throughout the nation.

The Head Trainer was selected as the most informed source of information because of his special duties in caring for the physical condition of the players. The coach directs the overall strategy, the trainer attends to the well-being of the individual player. Almost of necessity the trainer is a fine type of person, devoted and considerate toward the players under his care. If the player wears glasses or contact lenses it falls within the province of the trainer to see that these aids to vision are properly cared for.

The questionnaire made the following request: For each of the years 1956 and 1957 state how many players wore contact lenses while participating in 1) football; 2) basketball; 3) other sports. The replies are tabulated in the accompanying chart which lists alphabetically those colleges and universities which responded. A space for remarks was provided with no indication of what was desired. The statements are, therefore, open and spontaneous opinions of the trainers. Since space prevents reproducing all of the remarks, selections are given which demonstrate the general cooperation and enthusiasm for the subject. Almost all replies were in agreement with the fundamental concept that contact lenses are extremely valuable in sports. There was some disagreement with regard to the relative merits of the scleral versus the corneal type of lens. Some of the more interesting comments are as follows:

"Correct contact lenses worn by members of Stanford's athletic teams produce gratifying effects upon them. Their physical proficiency is increased, particularly in respect to reaction time, most noticeably in handling a ball in close quarters. In some cases it produces more agility which is sensed by his teammates (basketball) and smoother play is noticeable in respect to the wearer. Psychologically the results are more profound in many cases; increased confidence is felt almost immediately after the proper fit has been made. The wearer not only feels more fit to play in athletic contests but feels more self-assurance because he is no longer looked upon as being afflicted or required to wear a "crutch." His teammates have more confidence in his ability to perform and he enjoys a more normal association with his fellow athletes."

D. Conrad Jarvis,
Stanford University.

"Without the use of contact lenses we probably would not have won the Atlantic Coast Conference Championship in football. A great number of athletes would not be able to participate without the use of contact lenses. Glasses are very cumbersome and annoying, but contact lenses overcome these obstacles. I think that contact lenses are much safer than glasses. With them a boy is able to participate in athletics as freely as a boy that does not have any vision defects. I think that they are very valuable to an athlete."

Herman Bunch,
North Carolina State College.

Continued on page 6

* Reprinted from the August 1958 issue of the Journal of the American Optometric Association.

LEARN TO USE *Cramer's* SPRAY PRODUCTS-FOR GREATER EFFICIENCY

Nitrotan Spray (germicide)—kills harmful bacteria contacted, checks capillary bleeding from superficial skin lesions, reduces pain. Use on cuts, lacerations, strawberries—all new open wounds. To alleviate pain of sunburn, spray at 15 to 30 minute intervals until relieved. The spray does away with bottles, swabs, etc.

FungOspray is a germicidal-fungicidal spray prepared expressly for the treatment of athlete's foot, jock strap itch and other fungus infections. Spray infected areas twice daily. Allow to dry without wiping, and dust with Cramer's Foot and Body Powder. For jock strap itch, have supporter worn over shorts.



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Shine and dress-up your football shoes in 30 seconds with Cramer's Shoe Shine Spray. It is neutral in color, works equally well on tan, brown and black street shoes. Just wipe off dust, then spray, holding can 15 to 18 inches away from shoe. The spray contains silicone for waterproofing.

Amspray is smelling salts in its most economical and practical form. Spray on corner of towel or handkerchief and inhale fumes with caution. It is actually 16 times more economical than our ammonia capsules, and just as effective. It costs about 1/2 cent each time used, compared to 8¢ for Am-Caps.



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AN INVESTIGATION

Continued

"I have been using contact lenses for my athletes for the past ten years and I have had a great deal of success with them. I am firmly convinced that they not only help the athlete to see correctly but that they also have a safety value in injury to the eye. It is my belief that for anyone needing visual aid, contact lenses are the right answer."

Duke Wyre,
University of Maryland.

"Good eyesight makes for good performance. Contact lenses in football are easy to care for. All sports have benefited greatly by the use of contact lenses."

Ray Fullerton,
Columbia University.

"Several of our best players in recent years have worn contact lenses in all games and practice. These were near-sighted players who would not have been nearly so effective without the help of contact lenses."

Melvin Moretti,
College of Pacific.

"We have found that the use of contact lenses in sports is very beneficial. I recall a case which occurred in 1954. One player had been very irritable and hard to get along with. We had checked him for about everything and could find nothing which would indicate his lack of cooperation other than his eyesight. After he started using contact lenses he became one of our better players and in his senior year he was elected team captain."

Paul Schneider,
Nebraska University.

"Our football captain in 1956 started wearing contact lenses in high school and wore them all through college and during the pro season just finished with the Montreal team in the Canadian League. He thinks they are very good and would not have been able to play without them. He said, and I agree, 'Contact lenses are as much a part of a player's equipment if he has bad eyes as are his shoes or shoulder-pads'."

Herbert E. Gulick,
University of South Carolina.

"We have numerous athletic prospects reporting to our campus wearing glasses, and if they do not have contact lenses we always have them fitted for same. The big majority of our scholarship athletes who require glasses are usually fitted for contacts before getting to college athletics. We have a rule here that no one can participate in major sports wearing glasses, so whether they have them or not they are fitted for contact lenses."

Elmer Brown,
Texas Christian University.

"We have had athletes in various sports using contact lenses since 1942, mainly in football and basketball. This year (1957) our fullback is wearing contact lenses and he feels that they have been very satisfactory."

Ernest R. Biggs,
Ohio State University.

"We use contact lenses and find them very helpful. If it is necessary for athletes to wear glasses I would much rather they wear contact lenses."

E. C. Drake,
U.C.L.A.

"I feel there is no substitute for contact lenses in sports. We noted a vast difference with the athlete giving a better performance using contact lenses."

Louis Onesty,
University of Virginia.

It must be recognized that the experience which an individual trainer might have would be influenced by the availability of competent professional services in the vicinity of his school. In a large metropolitan area, where contact lens specialists abound, the use of contact lenses by players is likely to be more common than in a school located in a comparatively isolated community far removed from qualified professional help. This factor was made evident in the remarks of a few trainers who took players great distances to have them fitted with contact lenses.

Statistics and statements have been presented which demonstrate the considerable use of contact lenses by athletes in colleges and universities. Comparative totals for the years 1956 and 1957 indicate a growth in the number of sports participants wearing contact lenses. Statements of head trainers, key figures in college and university sports, indicate a significant trend in the successful and increasing use of contact lenses for sports.

Continued on page 8

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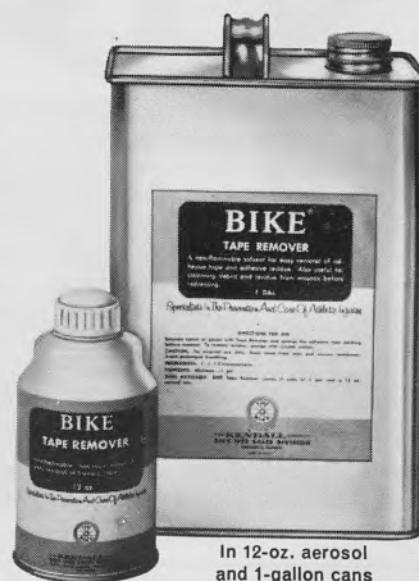
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AN INVESTIGATION

Continued

Table of number of players wearing contact lenses while participating in sports during years 1956 and 1957

College	Football		Basketball		Other Sports		College	Football		Basketball		Other Sports	
	1956	1957	1956	1957	1956	1957		1956	1957	1956	1957	1956	1957
Alabama Polytechnic Institute.....	0	1	0	0	0	0	Nebraska University	3	2	2	2	0	1
University of Alabama	0	0	0	0	0	1	North Carolina State College.....	4	5	0	0	0	0
Arizona State			1				University of North Carolina.....	3	3	1	1	2	1
University of Arkansas	3	2					Northwestern University	0	1	0	0	0	0
Baylor University	0	1	0	1	0	0	Ohio State University	4	2	2	0		
University of California	2	3	1	2			Oklahoma State University		1				
U. C. L. A.	1		1	1			University of Oklahoma	2	0	2	1	0	0
Clemson College	3	3	0	0	0	0	Oregon State College	2	1	2	3	3	3
College of Pacific	3	3	0	0	1	1	University of Oregon.....	1	1	0	0	0	0
Colorado State University	1	3	0	2	1	3	University of Pittsburgh.....	2	2	0	3		
Colorado University	3	7	1	2	5	11	Princeton University	4	3	1	1		
Columbia University	6	12	1	2	0	6	Purdue University	2	5		1		
University of Denver	2	2	0	0	1	3	The Rice Institute	1	2	0	1	1	2
Duke University	3	2	1	1	2	2	University of South Carolina.....	3	2	0	0	1	0
University of Florida	6	7	1	2	2	1	University of Southern California	1	1				
Georgia Institute of Technology..	2	3	0	0	0	0	Southern Methodist University...	3	3			1	
University of Georgia	3	5	0	0	2	2	Stanford University	8	5	5	7	4	6
Harvard University	2	3	1	1	2	2	University of Tennessee	4	3				
University of Idaho		4	2		0		Texas Christian University	3	3	1	1	0	0
Indiana University	2	1	1	0	0	0	Texas Technological College	7	5	4	4	2	2
Iowa State College	0	0	3	2	0	0	Tulane University	3	3	1	1		
Kansas State College	0	0	0	0	0	0	University of Utah	0	2	1	3	0	0
University of Kentucky	1	1	1	1	1	2	Vanderbilt University	1	2	0	2	0	0
Louisiana State University	2	1	0	0	0	0	University of Virginia	3	3	2	2	0	0
University of Maryland	6	4	2	1	4	4	Wake Forest College	2	1	0	0	4	6
University of Miami	2	2	2	2	0	0	Washington State College	0	0	0	0	0	0
Michigan State University	2	2	2	2	3	1	University of Wisconsin	5	4	1	1	2	2
University of Michigan	3	2	0	0	1	1	University of Wyoming	2	4	0	3	3	6
University of Minnesota	5	8	0	3			Yale University	6	8	0	0	15+	20+
Mississippi State College	3	2	0	0	0	1	TOTALS	145	161	43	63	62	91



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Did you know that Columbus, Ohio, the site of the 10th Annual Meeting of the National Athletic Trainers Association, is the largest city in the world named for the discoverer of America? It is also the third largest capital city in the United States.

Speaking of conventions, Columbus, Ohio will be host to more than 700 convention groups of every type and size this year. It ranks as one of the top five convention cities in the world and has a yearly average of over 600 State, Regional, National and International groups which meet here annually.

Some of the interesting highlights of our city are:

The LeVeque-Lincoln Tower is one of the world's tallest buildings. It is higher than the Washington Monument and the Observation Tower at the top provides a most interesting view of Central Ohio. From this point you can see why the song was written and entitled "Beautiful Ohio".

The fine civic center located just one block from the Deshler-Hilton Hotel, includes the LeVeque-Lincoln Tower, City Hall, Departments of State Building, Central High School, Central Police Station and the new Federal Building. The Center has recently been enhanced by the addition of a Veterans Memorial Building and Convention Hall containing 40,000 square feet of exhibit space and eleven meeting rooms, the largest capable of seating 4200 persons.

Battelle Memorial Institute, the largest private research institution in the world, is located in Columbus. Some 1400 employees of the Institute are constantly striving to "serve mankind through the making of discoveries and inventions". In addition to the more than 600 scientists using the great laboratories, America's leading scientific schools send students to Battelle for graduate work. Each year finds this Institute expanding its facilities. A new Department of Agricultural Research was recently established.

In the metropolitan area of Columbus are located five colleges and universities. The largest and best known is Ohio State University, the sixth largest school in the nation. Its enrollment is in excess of 24,000 students divided among ten colleges. The ten colleges have 96 departments of instruction taught by more than 2000 faculty members. In addition to the beautiful campus located just at the edge of downtown Columbus, the University has a large farm and airport and a 36 hole golf course.

Ohio State Archaeological and Historical Society housed at the Ohio State Museum is the home of one of the greatest historical collections in the United States.

The United States Army maintains the Columbus General Depot just at the eastern boundary of the city. This Depot is the largest in the world and is a principal supply and storage base for our Armed Forces.

The State Capitol, dedicated in 1861, is one of the most perfect examples of Doric Architecture to be found in the world today. Its 24 huge limestone columns measure six feet in diameter and stand 36 feet high. The work of several famous artists hang in the Rotunda and its priceless art and war exhibits are of interest to the thousands of people who visit here each year.

Columbus has a little slogan they believe tells their whole story "Come to Columbus and Discover America".

Columbus has one of the finest transportation systems in the world. No street cars, but in all principal downtown areas you will find the quiet trolley coaches and motor buses. Single fares are twenty cents.

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Columbus, being the Capital of the State, is the home of the Governor.

We mentioned in a previous paragraph that the LeVeque-Lincoln Tower is higher than the Washington Monument. This is so by just four inches, but it is higher. The building was originally known as the A. I. U. Citadel, this name originating from the American Insurance Union, the builders of the Tower.

Columbus' worst disaster was the Ohio Penitentiary fire which occurred on Easter Monday, April 21, 1930. In this fire 320 inmates lost their lives. Capital punishment is in effect in Ohio and it is at Ohio Penitentiary where electrocutions take place.

Visitors to Columbus are impressed with our wide streets and for your information, Broad Street is 120 feet wide.

Columbus is served by seven major airlines (TWA, American Airlines, Eastern Airlines, United Airlines, Piedmont, Lake Central and Delta), five trunk line railroads (NYC, Pennsylvania, C&O, N&W and B&O) and eight national and state highways.

For those of you coming from outside Ohio, our sales tax is three percent, starting at 40 cents. Taxi fares in Columbus are metered and four can ride for the price of one.

There are six A. M., and three F. M. and three television stations in Columbus, three daily, two Sunday and one weekly newspaper; many fine restaurants, night clubs and theatres.

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AN ANALYSIS OF ADHESIVE STRAPPING

BY ROBERT B. SPRAGUE

Associate Professor of Physical Education, State
University of New York

A considerable portion of a school's athletic training budget is devoted to the purchase of adhesive tape. Consequently, it behooves those responsible to make an intelligent purchase. Amid advertising claims and customs of the past, the procuring of tape is frequently a matter of routine. One is often willing to accept the cost of the tape as a single criteria for judging quality and buy what the budget will allow.

Eleven Areas Of Study

In this study eleven types of tape were donated by various manufacturers from regular stock. They were then subjected to exhaustive test commencing with an evaluation under a training room situation. All tapes were coded from A to J, using their advertised retail price as a guide (see table of evaluation). Tapes tested ranged in price from about \$2.00 to approximately \$4.00 a tube. The extent of this writing is to focus on the area of tape selection and elaborate on the findings that will help coaches or trainers when selecting adhesive tape.

It would be heresy to attempt to prove one tape superior to another since all brands selected were outstanding in at least one category. In addition, some characteristics would appear more critical to one individual than another.

Criteria For Evaluation

Tapes were compared on the basis of the eleven following tests:

1. Thread count—specimens were denuded of their adhesive mass, placed under a magnifying instrument and the number of threads per inch running in each direction were counted. (counts ranged from 40-80).

2. Tensile strength—a $\frac{3}{8}$ " x 10" sample of each brand was subjected to a tensiometer test ten times and an average extracted from a resulting graph. (range 14-23 lbs.)

3. Total weight—a sample 6" long and $1\frac{1}{2}$ " wide was weighed on an analytical balance. (range 1.3687-1.9680 gms.)

4. Cloth weight—the same sample in test No. 3 was immersed in tape remover and the adhesive mass was removed. The cloth was weighed as in test No. 3. (range .4191-.7964 gms.)

5. Adhesive mass weight—the weight of the mass was determined by subtracting the result of test No. 4 from test No. 3 (range .8337-1.1975 gms.)

6. Adhesiveness—sample tape was placed adhesive side up and a steel ball was released from an inclined plane and allowed to roll over the sticky tape mass. The distance the ball traversed was measured in centimeters. (distances ranged from 9.2 to 54.1 cm.) In this test an average of ten trials was calculated.

7. Residue—The tapes were placed on several individuals without preparing the subject's skin and removed after 24 hours. A rating of none to great deal was determined by comparison.

8. Irritation—three tape allergic individuals were selected and the test was conducted as test No. 7. (range: some-severe).

9. Winding tension—sample rolls were given to ten students in an athletic training course and they were asked to place the rolls in order of their winding tension. A consistent rating was surprisingly discernible. (range: poor-fair-good).

10. Container construction—the numerous services that discarded tape containers perform was justification alone for this test; notwithstanding the protection afforded the tape. Test procedure was a duplicate of test 9. (range: poor-fair-good).

11. Subjective evaluation—veteran football players were taped with each sample and offered comments. The taping was performed in series and the tapes were rated subjectively.

Desirable Characteristics

Without passing from obscurity to oblivion, let's examine what could be considered an ideal adhesive tape.

1. Price—Cost is affected by quantity purchases. The most expensive tape was not found to be the most desirable in all categories tested.

2. Thread count—Normally 80 square is preferred. However, one of the most satisfactory samples was 40 square. This tape was rated very high in the subjective evaluation and had an acceptable tensile strength. A very fine weave will make turning or locking difficult and decrease any "breathing" action thought by some trainers to be important.

3. Tensile strength—The strains of athletic events demand a tape high in tensile strength. However, there is a point of a diminishing return where the tape is difficult to tear when applying and consequently impractical for normal strapping.

4. Weight (cloth-adhesive)—A pleasant balance between cloth weight and adhesive mass is imperative. Tapes that seemed to be most desirable had a ratio of cloth weight to adhesive mass weight of about 7:10. This should not be regarded as a critical property because some tapes not within this ratio were satisfactory.

5. Adhesiveness—It seems almost trivial to mention a tape must stick, to be satisfactory. However, some high priced tape did not rank well on adhesiveness. Tape will dry out when stored and this may account for a portion of this phenomena.

6. Residue and Irritation—The least we see of both of these culprits the better the tape. Indications are that where a large residue was found, irritation was more prevalent.

7. Winding tension and container construction—In contrast to other criteria, this area is of small significance. However, tape poorly wound will dry out faster and is frequently difficult to use. A rugged, screw top container is welcomed in any training room, both for the protection afforded the tape and for countless uses an empty container can fulfill.

8. Subjective evaluation—In judging adhesive this category adds the acid test. It is feasible to use a sample tube of a certain brand tape in actual strapping before you make any quantity purchases.

Continued on page 12

AN ANALYSIS OF ADHESIVE STRAPPING (Continued)

Finale

Some rather amusing conclusions were unearthed during the research. A few of the more potent findings were:

A. One type of tape was excellent in all categories except it produced a severe irritation on all three subjects.

B. A tape in the medium priced field scored an outstanding first on the steel ball test.

C. One rather inexpensive tape scored consistently well except for winding tension.

D. Of the three tapes that were rated as leaving "no residue"; one was high priced, one medium, and the third comparatively inexpensive.

E. The most expensive tapes were not winners on the tension test.

F. The heaviest tape, as would be expected, exhibited the highest tensile strength.

G. There was some correlation between price and desirable characteristics. However, this was not constant.

H. In attempting to select "Mr. Tape", the decision was most difficult. A more negative approach of discarding certain undesirable tapes proved most successful, leaving a selected group of "acceptable" tapes.

Have a jolly good time purchasing adhesive tape, because you will undoubtedly have company.

AN ANALYSIS OF ADHESIVE STRAPPING—TABLE OF EVALUATION

CODE	Price	Thread Count (per in.)	Tensile Strength (pounds)	Total Weight (grams)	Cloth Weight (grams)	Mass Weight (grams)	Adhesiveness (steel ball) (centimeters)	Residue	Irritation	Winding Tension	Container Construction
A	\$3.95	80	22	1.7962	.7560	1.0402	23.5	some	little	fair	fair
B	\$3.65	80	19	1.6489	.7687	.8802	38.4	none	little	good	good
C	\$3.65	80	23	1.9680	.7964	1.1716	27.0	great deal	severe	good	good
D	\$3.50	80	19	1.5355	.5990	.9365	25.6	some	little	poor	fair
E	\$3.45	80	21	1.8496	.7662	1.0834	9.2	some	severe	fair	poor
F	\$3.25	70	15	1.5775	.5592	1.0183	28.5	great deal	severe	good	good
G	\$3.05	80	17	1.3687	.5350	.8337	54.1	none	little	fair	good
H	\$2.95	40	14	1.6466	.5462	1.1004	28.4	great deal	severe	poor	good
I	\$2.75	40	17	1.6083	.5581	1.0502	17.2	none	some	poor	fair
J	\$2.25	47	14	1.6166	.4191	1.1975	38.8	some	some	good	good
K	\$1.80	80	15	1.5580	.5889	.9691	41.8	great deal	severe	poor	fair

NOTE: In the adhesiveness test with the steel ball, the less the ball rolls, the more adhesive the tape.

COME TO COLUMBUS JUNE 15, 16, 17

From the moment you check into the Deshler-Hilton Hotel, park your tooth brush, unpack your grip and begin to look for other members who have come for the 10th Annual Meeting of the N.A.T.A., you will find plenty of activity. Your convention committee has planned a meeting that will be tops by any measurement.

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When at the Deshler-Hilton Hotel, headquarters for the 10th Annual Meeting of the N.A.T.A., you will be right in the center of everything. You will not only be in the center of things locally, but also with respect to the whole State of Ohio for Columbus is situated near the center of the State at the gateway to the Mid-west. Columbus is located in the heart of the nation's industry and approximately 200 miles from the center of population.

You will find entertainment to fit every taste in our city. Columbus boasts a number of widely and favorably known food and refreshment spots as well as several first class nite clubs. You will find the legitimate theatre and outstanding movie houses within two blocks of your hotel. Columbus has professional boxing and wrestling, International Association Baseball, Western Conference football, running races, power and sail boat racing and many other sports features.

The ladies attending will find plenty of things to do and see in Columbus. Sightseeing trips, many fine stores, the Columbus Gallery of Fine Arts, two Historical Museums, Ohioana Library, radio participation shows, style shows and any other attractions may be found interesting.

The State Capitol sits majestically in a ten-acre park and is an outstanding point of interest to all visitors to Columbus. Its pure Doric architecture and its war and art treasures provide an attractive sidelight. In the downtown area you will want to see the civic center on the Scioto River front. The Center over which rises the impressive LeVeque-Lincoln Tower, includes the Departments of State building, City Hall, City Prison, Central High School and the new Federal Building. In the near future the Center will be enhanced by the new Veterans Memorial Building and Convention Hall.

Everyone will find it easy to get around and see what you want to see and do what you want to do while in Columbus. Starting from the center of things, and you will be there, you will have the advantages offered by good transportation facilities to any part of the city or suburbs. You will appreciate the accessibility of the theatres, retail stores, restaurants and various places of amusement and recreation.

You'll meet a Columbus that is enthusiastic about the future—and one that is glad to greet you and help make your stay in Ohio's Capital City a very pleasant and profitable one.

In Columbus the saying goes—"COME TO COLUMBUS AND DISCOVER AMERICA".

EXCERPTS FROM A REPORT ON MOUTH PROTECTORS

Presented at the National Alliance Football Meeting
at New Orleans, Louisiana, January 5, 1959

There is nothing more disheartening for a dentist to hear than that a child has fractured his anterior teeth while playing one of the varied contact sports. The child will need not only emergency treatment but also treatment for the rest of his life. A fractured tooth, unlike a broken arm or leg will not heal. Damage to the tooth is always of a permanent nature.

In the 1954-55 Handbook of the National Federation of High School Athletic Associations, football injuries are listed as follows: face and dental, 53.9%; knee, 19.6%; shoulder, 13.6%; head 9.7%; and pelvic 3.7%. It is imperative that more mouth protection be provided.

In their recent article Watts, Woolard and Singer stated: "Schools spend on an average of \$90 to \$120 annually to outfit each football player with protective clothing, which affords him protection only for those regions in which 48% of the injuries occur." A comfortable, well-fitting mouth piece costs less than a pair of football shoes. It should become standard equipment. The dental scientists pointed out the need for mouth protectors as far back as 1927, when boxers sought protection from blows to the mouth that sometimes resulted in death.

A survey has been made of some of the available reports and the following are suggested. The purpose of a mouth protector can be:

1. To cushion the teeth against direct contact with one another.
2. To protect the lips and cheeks against cuts and bruises due to external and internal trauma.
3. To cushion the effect of a blow to the lower jaw which might result in forcing the condyle head upward and backward against the skull and thereby cause a concussion.

The mouth piece worn must be fairly comfortable for the player. It must not impede breathing. It must remain in place with the mouth open and must not interfere with speech.

From a survey of available means of mouth protection, the advantages and disadvantages of all were studied and it seems to be the opinion that soft vellum rubber or vellum acrylic splint fitted to the maxillary arch seems to fit the bill the best. The committee is aware of the various types of face masks, bars and cages, of fiber, plastic and metal attached to the helmets that are available and useful. However, we feel strongly that though these protect the face, they do not adequately protect the teeth. Studies show that teeth become injured from blows under the chin in spite of these face protectors.

The vellum rubber or vellum acrylic mouth protector can be made easily and is not costly. The tailor-made mouth protector has the advantage of being more comfortable than the commercial type because it is more easily contoured and fitted to the individual than the commercial type. Of the commercial type, there are two types that seem most satisfactory. These are Featherbite and Voit mouth protectors. Both are soft vellum rubber horseshoe-shaped devices with buccal and lingual surfaces. Between the two

flanges is a thermoplastic material which can be adapted to the teeth and chilled to retain the shape of the upper dental arch.

Of the tailor-made type, there are two general technics employed, each explained below. The main difference between them is a matter of individual preference.

The flask method involves taking an upper impression and pouring a stone model. This model is then waxed up with two thicknesses of baseplate wax about $\frac{1}{8}$ inch thick, adapted to the teeth. A featheredge margin is made $\frac{1}{4}$ inch above the gingival line on the buccal, labial and palatal surfaces. The model and wax-up are invested and either soft vellum rubber or soft vellum acrylic is packed and processed into the mold. The mouth piece is trimmed with scissors and the name marked on the finished mouth protector.

The paint-on method involves taking an upper impression and pouring a model. The model is then painted with two thin coats of shellac or lacquer to act as a separating medium. Then XL Latex Rubber (Plastic Art Studio, 3403 South Madison, Muncie, Indiana) is then painted on the model in successive layers to form a solid latex mouth protector which can be trimmed with scissors to give added comfort. The last method is presently used by the Navy and the University of North Carolina for their football players. It is referred to as the Latex Mouth Guard.

If the public is educated and convinced to the necessity of the mouth protectors in contact sports, they will insist that all players participating in any or all contact sports wear them.

HERE'S A MIGHTY FINE IRON - I'VE BEEN
USING ONE OF THESE "GOOSE - NECKS"
FOR OVER TEN YEARS!



SOME SUGGESTIONS ABOUT CONDITIONING OF HIGH SCHOOL FOOTBALL PLAYERS

By "Bob" Grant
Asst. Athletic Trainer
Purdue University

Conditioning of an athlete for a sport can mean many things. The end result or product may many times be only as good as the program that develops it. The dictionary takes up quite a bit of space with several definitions of the word *condition*, among them: "Proper condition, as for work; state of being fit," and "to put into proper, or the desired condition." The writer believes that the conditioning of high school football players is a double responsibility involving the team physician and the coach. In addition, this responsibility begins when the eighth grader signifies his intent to play high school football, and ends when he has graduated from school. The approach to conditioning must be broad as it involves *everything* from the medical examination to the follow-up treatment of any injury. Conditioning is concerned with the entire mental as well as physical state of the participant.

The important things in a football player are his skill, the quality and quantity of exercise he can thrive on and the development of certain attitudes of mind. The high school coach that is forced to guess whether or not a given candidate can "stand-up" to the rigors of his training regimen "suffers" unjustifiably. "Accident prevention starts with the elimination of candidates who are physically or mentally unfit to participate in vigorous activities."¹ The first phase of conditioning any athlete is to find out whether or not he is fit to participate in your program. The obvious approach is a thorough physical examination and at *various* times during the year.

I. The Physical Examination

The suggestion is to conduct a *late spring* physical examination of *all* candidates for the football program of the following fall (includes the eighth graders). They are given a complete physical examination—medical, dental and visional. The laws of our states concerning such examinations are either non-existent or very scarce indeed. It does appear that good moral sense and responsibility in the high school makes such examinations a must.

A. The Medical Examination (late spring)

Physician and coach should work together in close harmony. Thoroughness at this time may prevent disaster in mid-season.² The average physical examination is too casual and hurried.³ "A good medical examination should include a detailed medical history with regard for old injuries and past illnesses. Not only should a thorough routine medical examination be done, but a plate of the heart and stereoscopic X-ray of the chest are desirable. Blood and urine analysis would prove of interest and be of use for future reference."⁴ Thorough examination of the *feet* will lead to correction of any imbalance or mal-function. The medical examination can also uncover skin and posture problems in addition to non-recognized defects and initiate correction.^{4,5}

The writer believes it is imperative that all the athletes participating in a secondary school athletic program be given a thorough medical examination, and it is *indefensible* to conduct a program without it.

The findings are recorded in a health record of the athlete and follow him all through school. The record serves as a constant means of comparison for correction of defects and as a recording of growth changes. The results of a thorough medical examination are invaluable to parents and to all school officials in terms of liability.^{2,3}

B. Dental Examination

A thorough dental check-up at the time of the spring physical may avoid tooth-ache and "heart-ache" during the season. Any unusual or out of the ordinary findings should be reported to the parents and a copy of this report attached to the medical record.

C. Eye Examination

Good eye examinations are often neglected, and the athletic ability of many boys could be increased by proper correction of defective visions. The sensory tests of visual and auditory acuity should be a part of the over-all physical examination.

During the time of the late spring physical, physician and coach could talk about summer jobs and conditioning. The writer feels it is a good idea for young football hopefuls to seek summer employment in jobs requiring semi-strenuous or strenuous work. The spring physical is also an excellent time to have the physician *evaluate* any injury of the previous season that may have undergone therapy during the winter. *Note:* All new candidates who missed the spring physical are examined in the summer or early fall *before* participation is permitted.

D. Medical Examination (post-seasonal)

Evaluation by the team physician of all injuries that kept a boy out of *one* day or more of contact work. Find out the status of that injury and what the team physician will recommend for any correction if needed.

Part of any conditioning program is the maintenance of weekly or bi-weekly weight charts by the coach. "The chart actually tells a story. Fluctuating weights indicate a lack of muscle tone, a lack of *condition*, and sometimes, indicate improper eating or possibly bad teeth."⁶

II. The Season In Total Scope

We are dealing with four periods of concern during the year, not just one.

A. July 15 to August 15

This is the period of pre-season conditioning designed by the coach and done by the athlete on his own. Any such program is designed to *condition* the circulo-respiratory mechanism to stress, to generally stimulate all the body systems and to start to build up the athlete's endurance levels. Supposedly when he reports for practice on August 15 he is better prepared for the rigors of *early organized season practice*. The issuing of shoes and sweat socks before summer recess with instructions to wear them only fifteen minutes at a time or until the feet are "toughened-up" seems logical.

Continued on page 15

¹ Webster's Collegiate Dictionary, Springfield, Mass., G. and C. Merriam Co., Fifth Edition, 1947, pp. 210-211.

² Morehouse, Laurence E., and Philip J. Rausch, *Scientific Basis of Athletic Training*, Philadelphia, W. B. Saunders Company, 1958, p. 133.

³ Stevens, Marvin Allen and Winthrop Morgan Phelps, *The Control of Football Injuries*, New York, A. S. Barnes and Company, 1933, pp. 3-4.

SOME SUGGESTIONS (Continued)

B. August 15 until First Game

Early drills are most important and will bear greater "fruit" if one uses the following training principles as a guide. The earlier month of individual "work-outs" that started conditioning the body to stress and initiated the circulo-respiratory response are now *organized*. "The rate of development of a squad will vary with individuals, but the activity must be graded always in an upward direction."⁵ "Conditioning hence training cannot be hurried."⁶ The coach will recognize the four principles of training: *continuous and repetitive use* of the body is essential, *intense use* of muscles so as to receive close to maximal stimulation daily, *importance of drive* the "urge to improve" is necessary and *persistence* in terms of fairly long periods of continued practice with a rhythm of activity alternating with adequate periods of rest make good sense.⁵ Recuperation from fatigue is necessary for a good performance in the next bout of exercise.⁵ The boys will soon look sharper. To be fair is to be patient. "Slow graded conditioning permits the muscle system to more readily respond to the demands and commands of the nervous system."⁶ The writer feels the coach may mental condition better at this point if he informs his squad what will be expected of them physically, from now on. Each day the muscles must be required to work as hard as they are able for a period of time, and day by day the work required of them must be increased. The amount of work may be increased by performing the exercise for a longer period each day (endurance); it may be increased by doing the exercise more rapidly (agility and reaction time) or it may be made more strenuous by increasing the amount of resistance (slow introduction of contact work). Six days of fundamentals is advised before the first scrimmage.⁹

1. On The Field

The traditional one lap is taken at a jog pace. The coaching staff is on the field and the player report to his *position coach* for fundamental work and improvement of the individual by discussion type teaching. Kickers and centers stretch well at this time, but *nothing* is done at full tilt in this pre-practice period.

2. Practice Starts

A pre-designated area of the field to be used for general calisthenics is known to all. Every boy runs three-quarter speed to this area. This period lasts for five or ten minutes and *continues* the warm-up started during the *on the field* time. Conditioning is not accomplished here, the general calisthenics is a *warm-up drill only*. Why is a good warm-up of value to your squad? Warm-up drills consist of *general body exercises* and stretches. "The danger of injury is lessened when an athlete is thoroughly warmed up, which increases the speed with which he is able to react."⁷ "To summarize, the warm-up is an attempt to get all the systems of the body to the

point of adjustment necessary for strenuous exercise, to minimize the chance of injury, muscle or organic strain, to relieve the body of tension; to alert the nervous system for its job and to give the boy the feeling of confidence that he is ready to do his best in the performance of his position."⁷ Warm-up exercises serve to give mental and physical preparedness and to bring the body temperature to the most favorable point for muscular activity.

3. The Individual Period (conditioning)

The boys go to pre-designated areas for work with their position coaches; this period immediately follows the warm-up. Physical conditioning *only* can produce consistency in performance.³ Vigorous physical conditioning is a prerequisite to safe participation in sports.² During the individual period especially during the first week or two time is spent in teaching exercises and drills to strengthen movements in that position. The program is kept somewhat general, however, now and *through* the season so as to exercise all musculature. "Leg strength seems to be the important factor in the offensive maneuver, but arm and shoulder strength is equally important in defensive play."⁸

The boys are also taught falling techniques during the individual period.²

There should be more emphasis on developmental exercises for shoulder and neck muscles.⁹ These type exercises can help develop muscular shock absorbers.

If it is *not a day of contact* drills emphasizing footwork and defensive and offensive fundamental moves are employed. This permits the boys to be thinking game conditions as well as doing *some* continued reaction work and muscle conditioning. These type drills should be changed every five minutes to prevent boredom.

If it is *a day of contact* the individual period will start with tackling drills at three-quarter speed. As stated previously the five minute rule applies and even though this is a day of contact never have every drill at "*full go*." The reasoning is that if the individual period is too much you are less apt to get *full* results in the scrimmage to follow as the boys will "*hedge*" on you as fatigue nears. Note: As fatigue approaches the boy begins to substitute gross motions for fine ones and generalized efforts for specific ones. Wrong movements tend to take place, progress is set back, thus the boy should practice fine skills when he is fresh.² The midway point in the individual period seems the logical time to introduce new moves and to practice finely skilled movements of the position.

In summary, during the individual period tackles concentrate on footwork drills and eye reaction to going on the ball rather than on the

² As per No. 2 under references, p. 139.

⁷ Dickerson, Arthur D., *The Importance of Warm-up*, The Journal of the National Athletic Trainers Association, Feb., 1958, p. 8.

² As per No. 2 under references, p. 137.

⁸ Murry, Jim and Peter V. Karpovich, *Weight Training in Athletics*, Englewood Cliffs, N. J., Prentice-Hall, Inc., 1956, p. 121.

² As per No. 2 under references, p. 138.

² As per No. 2 in references, p. 28.

⁵ Reidman, Sarah R., *The Physiology of Work and Play*, New York, The Dryden Press, 1950, pp. 484-486.

⁶ Metheny, Eleanor, *Body Dynamics*, New York, McGraw-Hill Book Company Inc., 1952, pp. 40-41.

move of man in front of them, guards and centers do drills more concerned with over-all agility and movement by position; ends do a lot of stretching drills and take-offs, the backs run, run, run, do a lot of ball handling as in a game and general reaction and agility drills.

It is the writer's belief that all drills and exercises should be done with a football situation in mind. Why do any other type drill? Even wind sprints when done as conditioners are done with a team in signal drill, the unit goes all out thirty yards running a play rather than just doing a sprint. This can take place as the squad comes together. *Note:* In a small school situation two coaches can readily handle the individual work, one with backs and ends the other with the interior line-men.

4. Squad Together

The squad becomes a whole unit and pure coaching is involved. The conditioning done here is usually for hard game type contact. Remember to permit brief rest periods to allow for physical and mental adjustment.

C. After First Game Through Season

a peak and leveled off. Double sessions are over. Now the challenge is to maintain condition by The conditioning should have fairly well reached proper warm-up, group, and whole squad work at a rhythm and tempo designed to "keep the edge," to prevent mental staleness may be the biggest problem!

Put them in "sweats" on a Monday if they deserve it or are nursing a lot of minor "bumps." Do not be afraid to create *fun*. To vary the work schedule may decrease monotony. Shorten a practice once in a while and inject variety. An unannounced lay off may retune your squad if they are slightly out of step. One of your biggest conditioning challenges as I see it is to develop behavioral qualities in your boys which produce a spirited hard working team!

D. End of Season to Start of Next

It might pay large dividends for any coach to investigate the possibility of introducing a long-

term, systematic, well supervised program of weight training for all his players. Many high schools now employ such a plan.

It is the opinion of the writer and others¹⁰ that weight training has a place in any physical development program. Properly conducted such a program may bear enough "fruit" to be the key that opens the door for better over-all strength and condition every coach desires in his boys.

The reader residing in states where spring football is permitted or where fall practice is not permitted until September 1, may have to adjust the suggestions given here to fit his own situation.

¹⁰ Counsilman, James E., *Does Weight Training Belong in the Program*, The Journal of Health-Physical Education and Recreation, Vol. 26, No. 1, January, 1955, p. 20.

References:

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9. A report in the *Chicago Daily Tribune*, Tuesday, January 7, 1958, Spt.-Bus., p. 2.
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Dear Mr. [Name],

I have received your letter of the 10th inst. and am glad to hear that you are well.

I am sorry that I cannot write to you more often, but I am very busy at present. I am working on a new book and I am sure that it will be of interest to you.

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