

A STUDY OF A YEAR-ROUND-CONDITIONING PROGRAM
FOR THE HIGH SCHOOL FOOTBALL PLAYER

by 45

Robert Wayne Samples

B.S., Fort Hays Kansas State College, 1958

A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Physical Education

KANSAS STATE UNIVERSITY
MANHATTAN, KANSAS

1969

Approved by:


Major Professor

LD
2668
R4
1969
524

TABLE OF CONTENTS

INTRODUCTION.	1
Purpose	1
Definitions of Terms.	1
Method of Study	2
DISCUSSION	2
Recuperative-Regenerative Program	3
Pre-Season Program	4
Competitive Season Program.	9
Exer-Genie Circuit	12
Off-Season Program	14
Weight Lifting	15
Agility Drills	24
Sprinting	24
CONCLUSION	26
BIBLIOGRAPHY.	27
ACKNOWLEDGMENTS.	28
ABSTRACT	29

LIST OF TABLES

TABLE	PAGE
I. Pre-Season Training Routine.	6
II. Chart for the Mile Run	8
III. Coaches Check List for Warm Weather Activities . . .	11
IV. The Workout Chart	23

INTRODUCTION

During the past ten years it has become increasingly obvious that a significant change has been taking place in the physical conditioning of a great majority of the athletes who are participating in sports. A few short years ago, the goal of physical superiority was found mostly among college and professional players, but today there is evidence of wide-spread enthusiasm among the ranks of the secondary school coaches and athletes, to maintain this year-round, top-notch condition.

Purpose

If a coach is to meet with success in his continual efforts to produce championship teams and athletes who measure up to the necessarily high standards set by the colleges and universities today, it would be of great benefit for him to have a sound conditioning program for his players to follow.

The purpose of this study was to present a sensible, workable program for physical conditioning, designed specifically for high school players, and one which would enable the athlete to maintain the best possible physical condition from August to August.

Definitions of Terms

Iso-metric exercise. This term refers to an exercise in which muscular force is applied to an immovable object. The anticipated result of this exercise is the strengthening of muscle.

Iso-tonic exercise. This term refers to an exercise in

which muscular force is used with a heavy movable object, the end result being added strength, size and endurance of the muscle.

Exer-Genie. This term refers to a specific exercise machine that has been found to be extremely complete insofar as the combining of the iso-tonic and iso-metric exercises into one process, are concerned.

Method of Study

Most of the information for this study was gathered from readings done over the years, from experiments of trial and error with various football teams and from the program that was instituted and followed by the football team at Belleville Township High School West, Belleville, Illinois, during the 1967-1968 school year. Additional sources were (1) the author's personal conversations with the inventor of the Exer-Genie machine, Mr. Dean Miller, along with written material published by the Exer-Genie company concerning its product (2) the program ideas in Off Season Football Training, by Paul Wiggin, Floyd Peters and Dr. Harvey S. Williams (3) tips from the professionals by way of informal talks with Mr. Jack Rockwell, trainer for the St. Louis Football Cardinals, and (4) a manual on pre-season conditioning, published and distributed jointly by the American Football Coaches Association and the Tea Council of the U.S.A., Inc..

DISCUSSION

The program used for the purpose of the study was divided into four periods:

First Period. Recuperative-Regenerative Program; two sections, one in June and the other in December.

Second Period. Pre-Season Program; July to mid-August

Third Period. Competitive Season Program; mid-August to the end of the season, which was the third week in November.

Fourth Period. Off-Season Program; first of January until the last of May.

Recuperative-Regenerative Program

One would assume that the best place to begin a study of a year-round conditioning program, would be at the point where the boys have just completed a school year of athletics or an off-season training program. Thus it was at this point, early June, where this particular program began. Many authorities believe that athletes should be given at least a month off from any rigidly disciplined training program at that time of the year. This was not to say that absolutely nothing should be done in the way of physical activity, but rather that they not be tied to a regularly scheduled, strenuous work program for the three or four week period preceding the end of school. Not only did this allow their minds and bodies to relax a bit, but it gave them some time to regenerate their enthusiasm and willingness to work at the highly disciplined program that was to follow.

Pre-Season Program

Because of the restrictions set by the high school activities association in Illinois, coaches are not permitted to meet with their athletes in any manner of organized, supervised program prior to the actual starting time for the season. Therefore, it was of extreme importance that the football players be assisted in organizing themselves before school was out in the spring. At that time it was determined those individuals with access to weights, since all boys did not own them. Small groups of boys were then formed, who lived relatively close to each other or who could otherwise meet together the three times a week to share facilities. It was important also, that the players be made aware of the fact that a physical fitness test was to be given on the first day of fall practice. It would be quite evident to the coaching staff at this time, those who had not been following the pre-season program. The players were advised that the fitness test would include chin-ups, push-ups, sit-ups and the mile run. Although the mile run was not part of the test recommended by the American Football Coaches Association, it was an activity preferred by this author, after experimentation and consideration of the other possibilities.

Also emphasized at the organizational meeting in the spring was the idea that the program which the boys were to follow in the summer should be gradually progressive, to be begun six to eight weeks prior to the start of fall practice. They were cautioned against using a crash type program that started a week or less from the opening day. They were encouraged to attempt to gain near max-

imum peaks of strength, agility, flexibility and endurance, so that they would be ready and able to perform their duties and assignments with maximum efficiency throughout the upcoming season.

The danger period for following a year-round conditioning program was most evident during summer vacation when most of the athletes had very few physical chores at home or were working on jobs in air conditioned buildings. Therefore, extreme importance was placed on beginning their conditioning program six weeks prior to the opening of the football season.

The most important task for the athletes during this pre-season period was to gradually rebuild themselves to the physical peak comparable of that of before their recuperative-regenerative period. Secondly, it was necessary for them to acclimate their bodies to warm weather activities, and it was of extreme importance that this was accomplished on a gradual basis. "The ideal situation is for athletes to be acclimatized to heat when they report for formal practice sessions. Daily exercise for a four to six week period is the recommended procedure."¹

During the summer season the athletes continued to lift weights, in order to maintain the strength and explosive power that was gained during the winter work-outs. They also worked on gradually rebuilding their speed. The running of 10, 20, 30 and 40 yard sprints was done to help in this rebuilding. Finally, they began practicing agility drills around the first of August.

¹Pre-Season Conditioning Manual, distributed jointly by the American Football Coaches Association and the Tea Council of the U.S.A., Inc., p. 3

TABLE I

PRE-SEASON TRAINING ROUTINE

AUGUST	1-8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23-30
SIDE STRADDLE HOP	20	20	20	20	20	20	20	25	25	25	25	25	25	25	25	50
TOE TOUCHER	20	20	20	20	20	20	20	25	25	25	25	25	25	25	25	30
TRUNK TWISTER	15	15	15	15	15	15	15	20	20	20	20	20	20	20	25	30
PUSH-UPS	20	20	20	20	20	20	20	25	25	25	25	25	25	25	25	30
SIT-UPS	20	20	20	20	20	20	20	25	25	25	25	25	25	25	25	30
1 MILE RUN	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
FORWARD ROLLS	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	10
COMPLETE THE EXERCISE PERIOD WITH ANY THREE EXERCISES OF YOUR OWN																

SPEED, STAMINA AND SKILL DRILLS

A. STANCE AND START

1. Jog twenty yards
2. Start 5 yards
3. Walk 20 yards
4. Start 10 yards
5. Start 5 yards and cut left
6. Start 5 yards and cut right

B. PULLING OUT OF LINE

1. Right--3 times and turn left
 2. Left---3 times and turn right
 3. Right--8 times and turn left
 4. Left---8 times and turn right
- (perform these drills four times weekly)

Table I shows a recommended group of exercises that the athletes were to follow. It was adapted from one that appeared in a booklet on pre-season conditioning, prepared by the American Coaches Association. A copy of this booklet was given to each player so that he had his own copy during the summer. The number of repetitions done and the distances run were increased after 14 days and again on the twenty second or twenty third day, in order to achieve the gradual conditioning that was desired. The drills at the bottom of the table were designed to increase efficiency of actual game skills.

The fact was also pointed out that it would be helpful for each player to be aware of the performance expected of him in the mile run that would be conducted the first day of formal practice. The following table was posted and also given to each player individually, so that each was able to check his performances throughout the pre-season program and regulate his training accordingly.

TABLE II
CHART FOR THE MILE RUN

Age	11-13	14-15	16-17
Excellent	6:00	5:45	5:30
Good	6:30	6:15	6:00
Satisfactory	7:00	6:45	6:30

Times below the satisfactory level will be considered poor, and will probably result in extra conditioning.

Table II shows the average age group time performance for boys in the mile run. The times indicate their general physical condition, and not their leg speed. The 11-13 age group would not be applicable to senior high school football players.

Competitive Season Program

The next phase of the year-round conditioning program took place during the time of the regular football practices and competitive games. This was the time from the last week in August through the middle of November. The goals that were to be attained during that period were different from those in the pre-season program. Whereas before the goal was to build up in the areas of strength, speed, agility and endurance, the emphasis was now placed on the maintaining of those acquirements and the prevention of the injuries commonly associated with football.

Before the actual seasons conditioning program was begun, the important factors that go along with warm weather practices were thoroughly reviewed. The old theory of withholding drinking water during work-outs, which was supposed to result in better and faster conditioning, was pointed out to the players as being false. "There is absolutely no scientific evidence to uphold this opinion. Medical research indicates that during work or exercise in the heat, it is necessary to replace water loss hour by hour. The practice of replacing body fluid will help prevent dehydration and incipient heat exhaustion."² In addition to the water, salt must also be replaced daily. During the two-hour practice sessions, a ten to twenty minute break was given, about half-way through each practice, at which time an ice-chilled saline solution was served. The players were given approximately four ounces of the saline solution

²Ibid., p. 4

at that break and another four ounces at the conclusion of the practice. In addition, a cold coke was given to the players after practice, to further replace liquid lost during the work-out.

It was also noted that if the athletes worked out in light-colored, light-weight clothing, and if the more strenuous part of the practices were held in the early morning and evening hours, the probability of heat exhaustion was greatly minimized.

The following table shows the check list that is recommended by the American Football Coaches Association, and was the one that was the most helpful in the insuring of safe practices and healthy athletes during the competitive season program.³

³Ibid., p. 7

TABLE III
COACHES CHECK LIST
FOR WARM WEATHER PRACTICE

-
-
1. Require a careful medical history and examination before foot-practice begins.
 2. Schedule workouts during cooler morning and early evening hours in hot weather.
 3. Acclimate athletes to hot weather football practices by carefully graduated sessions.
 4. Provide rest periods of 15 to 30 minutes during workouts of an hour or more.
 5. Supply light colored clothing to reflect heat, and which is lightweight, loose and comfortable to permit heat to escape and permeable to moisture, to allow heat loss via sweat.
 6. Furnish extra salt and permit liquids to be drunk during hot weather practice sessions.
 7. Watch athletes carefully for signs of trouble, particularly the determined athlete who may not report discomfort.
 8. Remember that temperature and humidity, not the sun, are important factors. Heat exhaustion and heat stroke can occur in the shade.
 9. Medical arrangements must be made in advance to obtain a physician's immediate service should an emergency arise.
-
-

Exer-Genie Circuit

The competitive season program took place during the time of the year when school was in session. Since football practices were held after the regular class day was over, time was somewhat limited. Because of the practice time that was needed to perfect skills, techniques and game assignments, the conventional weight training methods were considered to be impractical. In place of sprinting, weight lifting, etc., a relatively new method of weight training was used. This "Exer-Genie" method seemed to satisfy the objectives that were being sought, but at the same time, a minimum of ten minutes was needed to go through the program.

The Exer-Genie exerciser was invented by a former track coach at San Jose State College in California. It was the apparatus used in the circuit type program of weight training. When properly used its value was felt to be two-fold, in that it combined the iso-metric exercising of the muscles covering the joints, and the iso-tonic method of resistive exercise. The entire circuit program could be completed in approximately 10 minutes. Since the purpose of this report was to set up a conditioning program for the high school football player, the details of the actual operation of the Exer-Genie itself are not discussed. For those interested, refer to the bibliography for specific information.

The circuit set up was a five station circuit, with emphasis placed on routines that served to maintain current strength levels, improve flexibility and endurance and prevent injuries.

Station #1. A general body builder called the "Big Four" was used. The athlete performed a 10 second iso-metric exercise, followed by the iso-tonic principle of a complete extension of the muscle. The muscles worked in this exercise were the triceps, biceps, quadriceps and gastrocnemius. The muscles of the abdomen and lower back were also used. The "Big Four" was considered to be a good over-all exercise and excellent for warming up. If time was limited on some days, a satisfactory work-out was achieved with this exercise alone.

Station #2. This station may be referred to as the "Lats Station" as its primary function was the exercise of the latissimus dorsi, or the broadest part of the back, along with the shoulder region.

Station #3. At this station the athletes isolated and worked on the quadriceps femoris and also the tendon of the quadriceps, which are both so important to the protection of the knee.

Station #4. The legs were again being exercised at this station, as it was used for routines which would stretch and strengthen the hamstring muscle. Weakness in this particular muscle causes a lot of trouble for most players, early in the season. Hence it was felt that emphasis should be placed on performance of this exercise every day.

Station #5. This was the final station in the circuit and was the repetition of the "Big Four". The reason being that it was considered to be the best exercise of all, and it ended this phase of the work-out with a good tall stretch which helped in keeping the muscles from becoming too short and bulky.

Special Station. A special station was set up on most days, again using the Exer-Genie. Performance of the exercise at this station served as a valuable aid in the improvement of running. The small rope used in the Exer-Genie at the other stations was removed and replaced with a heavier, 50 foot running rope and harness. The performance of this exercise was best when used at the end of practice or in the place of sprints or as a means of extra hard work for discipline problems or late comers. The reason being that it was found to be much more tiring than those exercises in the regular stations, a fact which gave it increased value in the disciplinary program.

Off-Season Program

The last--and perhaps the most important--phase of the year-round conditioning program began immediately following the competitive football season, and continued until school was out in the spring.

The ideal plan suggested for the athletes to follow was for them to be involved in another competitive sport. Wrestling and basketball in the winter and track and field in the spring were all suggested as activities to keep the boys in top physical condition. Baseball, tennis and golf were approved, though tennis and golf were not highly recommended as being the most suitable for football players, as far as keeping in top condition was concerned. Experience with past teams has shown that it is best if players not be required or coerced into participating in an off season sport, especially if a definite disinterest has been demonstrated.

Experience has shown that in most cases where a boy did participate--against his will--the possibility of not giving 100% effort for the sport, resulted. Too, in such cases, an unsatisfactory relationship sometimes developed between the athlete and his coach, a factor which should be avoided if possible, in a well rounded program. For these reasons, only those athletes who demonstrated positive interest were actively encouraged to participate in the other sports.

The football players not out for another sport, either winter or spring (with the exception of the weight men in track season) participated in the last phase of the conditioning program. This phase of the program began once again with a brief recuperative-regenerative period during the month of December, at which time the athletes had the opportunity to recover completely from any minor injuries that were sustained during the regular competitive season. It also gave them an opportunity to catch up on any school work or home duties that had been neglected during the previous months.

The three areas of work that were stressed in this phase of the program were (1) weight lifting (2) agility drills and (3) drills to improve quickness and speed.

Weight Lifting

One of the most important parts of the year-round program was the building of strength and body size through the use of a new type of resistive weight exercise. There are many things that can be gained from lifting weights; however, the most important

thing that a football player can gain from lifting weights, along with strength and a larger body, is explosive power. Wiggin, Peters and Williams explain explosive power in the following way, asking that a set of weights sitting on the floor be visualized:

If you made an effort to lift them up, but could not lift them all, this would be isometrics. If you took most of the weight off the bar and could lift it 50 times, this would be body building. If you then added on some of the original weight and, through the use of sheer power, slowly lifted the weights, this would be "grunt and groan" weight training. Finally, if you could apply this same "sheer power" and lift the weight by using a violent body movement, this would be explosive weight training.⁴

The weight training program that was used in this study was designed to produce this explosive power. Although there were many athletes who had superior strength, this in itself did not necessarily mean that they would perform in a superior manner. The addition of explosive power to the strength would aid in making the best use of it, and for that reason the program ideas of Wiggin, Peters and Williams were employed.

Before mentioning the basic exercises that were used and the method of performance, the characteristics that make this weight lifting program different from the ordinary types used should be pointed out. The main difference is the speed with which the weights are lifted. Most other strength producing programs consist of a "grunt and groan" type of lifting. In the explosive power type lifting a boy seldom lifts a weight that is heavier than that which he can lift with very rapid speed. The traditional saying in

⁴Wiggin, Paul, Peters, Floyd and Williams, Dr. Harvey E., Off-Season Football Training, The World Publishing Company, Cleveland and New York, 1967, p. 10.

explosive power weight training is "make the barbells ring".

A boy should lift them rapidly enough so that there is a clanging sound made by the bar and weights. By lifting weights rapidly in this manner, one will not only gain added strength, but will also develop explosive power.

In order for the program to be properly implemented, certain types of equipment were considered to be essential. The number of sets of weights or pounds of weights was determined by the number of boys who would be participating at one time. For each group of four boys, two bars and 400 pounds of weight were used. Also included was a bench for the bench presses and a squat rack for exercises done with the legs. These pieces of equipment were decided as being the minimum with which the program could successfully operate.

In all types of physical activity it is important that the athlete engage in some type of a loosening-up process that will speed up the circulation and stimulate the large muscles of the body for the heavy work of activities to follow. Weight lifting is no exception. The side-straddle hop was used as a good warm-up exercise, along with rope jumping or a few laps of jogging around the track--in nice weather--or in the gymnasium in inclement weather.

Another item considered before the actual exercises began was the importance and need for safety and safety devices in the weight lifting. In order for the activities of the program to be of value and afford no dangerous risks to the athletes, consideration must be given to proper instruction and careful supervision

at all times.

The explosive power weight lifting program consisted of a set of five basic exercises. The first exercise is the common bench press. Mr. Wiggin, Mr. Peters and Dr. Williams suggested that a narrow grip on the bar was better because it placed special emphasis on developing the triceps, biceps and pectoralis muscles. Making the barbells ring was necessary in performing this exercise, in order that strength and explosive power be developed. The number of repetitions per set and number of sets done per work-out follow:

Set #1	1-8 repetitions of _____ lbs.
Set #2	2-5 repetitions of <u>(increase)</u> lbs.
Set #3	3 repetitions of <u>(increase)</u> lbs.

One might note that this was an increase-decrease theory of lifting, the purpose being that with this particular method, bulk or weight could be added, along with strength to the upper body--mainly the arms, shoulders and chest. If strength was the only attainment that the athlete wished, then this exercise was done in the conventional manner of 3 sets of ten repetitions, using the same weight on each set. Making the barbells ring was still a basic requirement of the exercise.

The second exercise of the basic five used was the explosive military press. A shoulder width grip was used for this exercise, with the elbows in close to the body. It began with the weighted bar above the chest and below the chin. The weights were then pressed upward, directly over the head and then lowered to the starting position. Once again the barbells were made to ring. The increase-decrease theory was used by some of the boys, dependent

of course on what one wished to gain from the exercise. However, the repetitions were somewhat different. On the press, 3 sets were done, but the repetitions were 8, 6 and 4. According to Off Season Football Training, the athlete should use lighter weights on the military press than the bench press. Common faults to be watched for and avoided on the bench press were too much arching of the back and a tendency to lift the weights above the head with a boost from the legs, rather than the arms.

The third exercise used was the explosion squat. This exercise was done in the squat rack, and for two reasons. One reason being that it allowed the lifter to safely add much more weight than he could without the use of the rack. The other was that it afforded the lifter the other safety features of the rack. The purpose of the exercise was to build up strength in the legs, which are so important in the game of football. Too, there would be a strengthening of the muscles of the quadriceps, which protect the knee joints that are so highly susceptible to injury in football. In performing this exercise the heavy weights were used, since the legs are normally much stronger and better built than the other muscles. Because of this factor, the increase-decrease theory of lifting was not employed, unless the athlete particularly desired to add to the size and bulk of his legs. The following program was followed:

Set #1	15 repetitions of _____ lbs.
Set #2	15 repetitions of <u>(same)</u> lbs.
Set #3	15 repetitions of <u>(same)</u> lbs.

The only time that weights were added to the program was after the athlete had established the desired weight for each exercise, with all of the sets and repetitions being easy to perform. Then and only then was more weight added and then no more than 20 additional pounds at a time. The only exception to this rule was in the testing program, which was a separate activity.

The fourth exercise in the basic five was the power curl. The same rules that governed the other explosive power exercises held true for the power curl. The number of repetitions and sets used follows:

Set #1	8 repetitions of _____ lbs.
Set #2	8 repetitions of <u>(same)</u> lbs.
Set #3	8 repetitions of <u>(same)</u> lbs.

On the power curl the weight was increased only when all 24 repetitions were easily performed and then no more than 5-10 pounds of additional weight was added at a time.

The last exercise to be used in the basic five was the sit-up. Strengthening of the abdominal and lower back muscles was deemed necessary, and this exercise will aid in producing these results. There is some controversy among coaches and trainers as to the proper and best technique for the sit-up. Wiggin, Peters and Williams say:

Many experts feel that, in the locked position, a stretch on both the lower back and the legs (hamstring muscles) can be directly associated with problems that may develop in the lower back. Further, the athlete utilizing the "bent-knee" position concentrates more thoroughly on the development of the abdominal muscles. Other advocates feel that doing sit-ups on a flat surface can also create lower back problems, because the athlete,

as he becomes fatigued, tends to "jar" himself up into the sit-up position, with a resultant sudden strain on the back and abdominal muscles.⁵

The bent-leg type of sit-up was used in the program conducted for the purpose of this report. The athletes increased the resistance to the muscles being used similarly to those done in the previous exercises. At some times, weight was added by the athlete holding a weight behind his head as the sit-ups were done. The iso-bench was also used, in order that the exerciser could make use of his own body weight for resistance. For each method the following was used:

Set #1 15 repetitions

Set #2 15 repetitions

There are two motivating devices that were used to stimulate interest and generate enthusiasm for the weight lifting work-outs. The first was the use of a test of strength, mentioned in a previous section. After the athlete had completed a set of exercises, he did the following:

1. Did one repetition of that exercise with a weight he knew he could do.
2. Did one repetition of that exercise with a weight he thought he could do.
3. Did one repetition of that exercise with a weight he hoped he could do.

Every few weeks the test of strength was repeated and in this way the progress of the lifters could be measured and evaluated.

⁵Ibid., pp. 40,41

The second method of stimulating enthusiasm was by keeping a chart showing the goals set by each boy and how much he was lifting during work-outs to achieve his goal. This method created a feeling of competition in the program, which served as a stimulus to most of the boys. They were cautioned, however, to compare themselves with someone of near equal size and ability, and to not revert back to the "grunt and groan" method of lifting just for the purpose of recording heavy weights on their charts. A sample chart, shown in the following table, is taken from one recommended by Wiggin, Peters and Williams.⁶

⁶Ibid., p. 51

TABLE IV
THE WORKOUT CHART

NAME	BENCH PRESS	MIL. PRESS	SQUAT	POWER CURL	SIT- UPS	GOAL
MIKE	205 8	125 8	275 3/20	105 3/10	73	MIL. 185
	225 5	145 5				BENCH 275
	245 3	165 3				SQUAT 300
GEORGE	245 8	165 8	275 3/20	120 3/10	85	MIL. 225
	265 5	185 5				BENCH 335
	285 3	205 3				SQUAT 325
LARRY	235 8	180 8	250 3/20	125 3/10	71	MIL. 250
	255 5	200 5				BENCH 310
	275 3	230 3				SQUAT 300

This table shows the chart that was used to help in the stimulation of interest in the weight lifting program. The first number or groups of numbers under the headings, show the amount of weight actually being lifted, or the number of repetitions being done, as in the case of the sit-ups. The single numbers beside or below the first number or groups of numbers indicate the repetitions that were done. Each boy kept his own record on the chart and comparisons were made of his efforts and those of other boys of near equal size and ability.

Agility Drills

As an aid in the improvement of agility, the regular football agility drills were not used in the off-season program. The players seemed to be tired of these by the end of the season of actual competition in football, and were not too interested in doing more of the same in the off-season. Since enthusiasm and interest were prime factors to the success of the program, basketball and handball were included in place of the regular drills, since the fundamental quickness needed to play those games very closely paralleled those needed to play football. In addition, the boys enjoyed playing these sports. These activities were engaged in on Tuesday and Thursday, since Monday, Wednesday and Friday were devoted to the weight training schedule.

Sprinting

The final activity that was included in the winter and spring phase of the year-round conditioning program was sprinting. It has often been said that "sprinters are born, not made", but this statement is not always true. When used as a supplement to the other phases of the training program, it was found that daily sprinting could improve the basic speed of the individual. "Many football players, especially linemen, do not realize their maximum running potential. Nothing can be done to create speed beyond the athletes potential, but improvement can develop within the limits of that potential."⁷

⁷Ibid., p. 72

Because of weather conditions, most of the sprinting was done during April and May. Since most football players are not required to sprint quickly over long distances in a game, 10, 20, 30 and 40 yard sprints were used in the work-outs. If the athlete felt that his endurance was poor, he worked to improve it by running a mile each night after the sprinting work-out was completed. The program that was used follows:

Ten	10 yard sprints
Five	20 yard sprints
Five	30 yard sprints
Ten	40 yard sprints

These sprints were timed whenever possible and were run on a surface that would not cause the boy to slip or one on which cleats could be worn. The fastest time in each group was recorded each day.

This final portion of the year-round conditioning program for the high school football player came to an end one week before school was out. This permitted the athlete to devote his entire time and energy to the matters of final examinations and end-of-the-year school responsibilities. It was followed by a month off for recuperation and regeneration, at which point the yearly cycle of the program began once again.

CONCLUSION

After a careful examination was made of the program that was followed by the Belleville Township High School West football team, it was concluded that a year-round physical conditioning program for the high school football player is both possible and practical.

An analysis of the program revealed that the benefits of the program were three-fold; (1) the athletes were physically ready to begin participation in football at the time the regular season began and their chances for injury were greatly reduced, (2) those athletes who followed the year-round program had more success in athletics in general and were able to achieve higher goals than those who had conditioned their bodies during the regular competitive season only, and (3) it was felt that the young men who began the practice of keeping physically fit during their high school days, would tend to carry it over into their adult lives.

BIBLIOGRAPHY

BIBLIOGRAPHY

Books

Wiggin, Paul, Peters, Floyd and Williams, Dr. Harvey E., Off-Season Football Training, The World Publishing Company, Cleveland and New York, 1967.

Phamphlets

Pre-Season Conditioning Manual, Distributed jointly by the American Football Coaches Association and the Tea Council of the U.S.A., Inc., 10 East 56th. Street, New York, N.Y. 10022

Exer-Genie Exerciser, Distributed by Exer-Genie Inc., P.O. Box 3237, Fullerton, California 92634

ACKNOWLEDGMENTS

Sincere appreciation is extended to Assistant Professor Raymond A. Wauthier and Professor T. M. Evans of the Physical Education Department of Kansas State University for the interest and guidance given by them.

Also to my wife, Shirley, for the time, effort and assistance that she gave toward the completion of this study.

A STUDY OF A YEAR-ROUND CONDITIONING PROGRAM
FOR THE HIGH SCHOOL FOOTBALL PLAYER

by

Robert Wayne Samples

B.S., Fort Hays Kansas State College, 1958

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the
requirements for the degree

MASTER OF SCIENCE

Department of Physical Education

KANSAS STATE UNIVERSITY
MANHATTAN, KANSAS

1969

The purpose of this report was to demonstrate a sensible, workable program for year-round physical conditioning, designed specifically for high school football players, and one which would enable them to maintain the best possible body condition from August to August.

The major portion of the findings enumerated in this report were gathered from readings done over the years, from experiments of trial and error with various football teams and from the program that was instituted for and followed by, the football team at Belleville Township High School West, Belleville, Illinois, during the 1967-1968 school year. Additional sources were a book by Paul Wiggin, Floyd Peters and Dr. Harvey E. Williams, Off-Season Football Training, a pamphlet organized by the American Football Coaches Association, Pre-Season Conditioning Manual, conversations with the inventor of the Exer-Genie exerciser, Mr. Dean Miller and published material concerning his product, and informal discussions with numerous college coaches and trainers.

The program was divided into four separate categories.

1. The recuperative-regenerative program, two sections, both of which are basically rest periods.
2. The pre-season program, which covers the six week period prior to the opening of fall practice
3. The competitive season program, which is the time of the year during which regularly supervised football practice sessions are conducted.
4. The off-season program, which is the period following the regular football season and until school

is over in June.

Two specific types of weight training are discussed in this report; (1) the Exer-Genie exerciser method of combining the isometric and iso-tonic principles of exercise, used in a circuit type program, and (2) the explosive power method of weight lifting, used in a series of five basic exercises.

Sprinting and drills to increase agility are also discussed, with charts that were used to implement each area of work.

The value of the year-round conditioning program is felt to be three-fold, in that it (1) enables the athletes to keep themselves in top physical condition and helps to reduce injuries during the regular competitive season (2) helps the athletes to achieve greater success in their efforts and therefore to gain higher personal goals in sports, and (3) encourages the athletes who have actively participated in it, to carry the habit of maintaining top physical fitness over into their adult lives.