



## The Effect of Special Exercises to Develop Some of the Variables and Basic Skills of the Young Basketball

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### Abstract

The importance of research is reflected in the fact that it helps to detect the effect of aerobics and to know its efficacy with antioxidants that work to get rid of the free radicals causing fatigue to young basketball players. Researchers used the experimental approach to fit the nature of the problem on the players of the Sports Solidarity Club youth basketball season (2017-2018) (13), the comprehensive survey method was adopted in the selection of the sample and three players were identified for the purpose of conducting the exploratory experiment, reaching The final number of members of the main sample is (10) players. Through a gathering of data, most importantly, the exercises used, which were specialized exercises in the type of skill and complex exercises and skilled exercises for the speed of performance contributed to the development of some of the basic skills of basketball, for both the jump and high pituitary and chest handling and defensive movement, there was a direct impact of the effort in the proportions of salts in the body due to exposure to effort bodily led to fluid loss.

**Keywords:** *Physiological variables, Basic skills and basketball.*

### Introduction

Antioxidants are an important variable in the specialization of mathematical chemistry and physiology with great influence at the athletic level, since "antioxidants that play a major role in the final outcome in the disposal of free radicals that hinder the functioning of cells in the production of energy"[1]. Davis asserts that the selenium has an important role in red blood cells, which protects the life membranes from the oxidases crash, [1] the study of these components in the blood of athletes and follow-up changes in athletes during physical effort, knowing that there have been "many studies on healthy and sick people", without mentioning the athletes study [2, 3].

A study of previous studies related to research in this field found that most studies aimed at studying the physiological responses to the body's organs and some chemical variables without addressing these researches to the antioxidants and their level of knowledge and the change in them to the athletes by observing the responses to the athletes in the antibiotics Oxidation

In addition to knowing the extent of change of these antibiotics after exposure to exercises proposed through cumulative adaptations that are the most important characteristic of the individual athlete from natural persons and patients, the impact of physical exertion on these adaptations has been studied after the physical effort was carried out by the members of the research sample, as is known that the metal elements and vitamins are closely linked to the fatigue factor: "Antioxidants are considered to be blood-based nutrients working on the" disarming "of unstable reactive molecules, and make it harmless, too"[4].

The importance of research is reflected in the fact that it helps to detect the effect of aerobics and to know its efficacy with antioxidants that work to get rid of the free radicals that cause fatigue for young basketball players.

### Practical Part

#### Procedures of Field Research

The researchers used the experimental method to suit the nature of the problem on the players of the Sports Club Youth Basketball Association for the season (2017-2018) of (13) players, and was adopted method of comprehensive inventory in the selection of the sample was identified three players for the purpose of conducting the pilot experiment, reaching the final number of individuals The main sample is (10) players

## Tests

### Physiological Tests: Measurement of the sodium (Na), calcium (Ca), potassium (K) Variables

The withdrawal of blood samples from the players by (5 cc) of each player from the sample so that the players will be in a full state of rest and without the exercise of any physical effort, as well as after the effort anaerobic period (5 minutes), blood is drawn by medical staff from the vein in the upper arm area Without the use of the turntable, they are lying flat on a floor. This is confirmed by (Mohammad Al-Qatt) "that (5) minutes is the best duration of the transfer of lactic acid from the muscles to the blood as well as biological organizations and chemical variables of the muscles and fluids inside the cell to the blood"[5].

Then the blood emptied from the injection to the tubes of blood saved (Tubes) numbered s 1 to s 10 as the character s refers to the Pre blood withdrawn, and the character B 1 to B 10 to draw blood after the effort and each number on the tube matched by the player's name in the registration form. After completing the process of drawing blood and put it in the Tubes are delivered to the medical staff by cooling Fund (Cool Box) for the purpose of separation and extraction of serum by a chemical specialist and using blood separation device (Subterfuge) and quickly 3000 cycles / min, and then pull the serum is placed in an empty tube bearing the number for the same tube of blood preservation.

### Method of Measuring Sodium (Na), Calcium (Ca), Potassium (K)

Take (20 ml) of the serum and leave for 5 minutes and then circulate in a circular manner for 30 seconds. And leave for (30 minutes) and then separates the deposit by the centrifuge and take (20 micro-liter) of leachate added to (1 m moll) of the (Na) (Rgt)

and leave for (5 minutes) and then put it with the spectroscopy (Spectrophometer) Along the wavelength (410 nm) and the results are given by the following equation:

The equation=  $\text{com} * \text{Test} / \text{Stander}$

Whereas:

**Com:** concentration of the standard solution

**Test:** The product of blood reading

**Stander:** Concentrate the solution through the leaflet attached with the alket.

### Basic Basketball Skills Test: Two Point Jump, High Dribble, Chest Handling, and Defensive Move:

#### Test the Scoring of Jump [6]

#### The Purpose of the Test

Measuring the ability to control the ball during the speed and accuracy of the scoring

#### Tools and Organization

2 Basketball, Basketball Goal, Stopwatch 2 Chair Draws an 18-foot (540 cm) line making a 45-degree angle with the finish line. This line ends with a small sign (cross-line) that specifies the area in which to move. 24 inches (45, 72 cm) chair, basketball racket. Same specifications on the other side.

#### Performance Specifications

The laboratory is seated behind the chair. When the starting signal is heard from the referee, the ball is picked up from the chair and the 18-foot mark (540 cm) is drawn from the finish line.

Two testers can perform the test at the same time, each of which performs the test from test when the first player took the ball from the board after his first vote.

The lab continues to perform the previous work, explaining it to make five scoring on each side (total of 10 scoring).

#### The Conditions

- Jumping behind the mark.
- The scoring leads to the jump.
- After the scoring to the laboratory to pick up the ball after the rebound from the goal to return to the place of scoring to return performance.
- The laboratory performs five scoring on each side.

### Registration

- Calculates the time from the moment the order is issued to start, until the laboratory picks up the ball after rebounding from the goal after the tenth scoring.
  - The correct injuries achieved by the laboratory during the ten scoring assigned to performance, and calculated points according to the following conditions:
  - The test was modified by calculating the number of correct scoring only and the calculation of the time taken for performance and then applies the following equation the number of scoring correct 60%.
- A. Two points are calculated for each correct injury to the target.

- B. A single point is calculated for each ball touching the edge of the board or the loop but not entering the target.
- C. Do not score points if the ball is not touching the board or basket and you have not scored a goal.
- D. Add one second to the recorded time for each error committed by the laboratory and the expected errors are:
- Running the ball before the scoring.
  - Jump twice.
  - Do not start (in the scoring) behind the specified lines.

Note that the registration includes two dimensions: the time recorded by the laboratory in the performance of the test, and then the number of points obtained from the scoring process as explained.

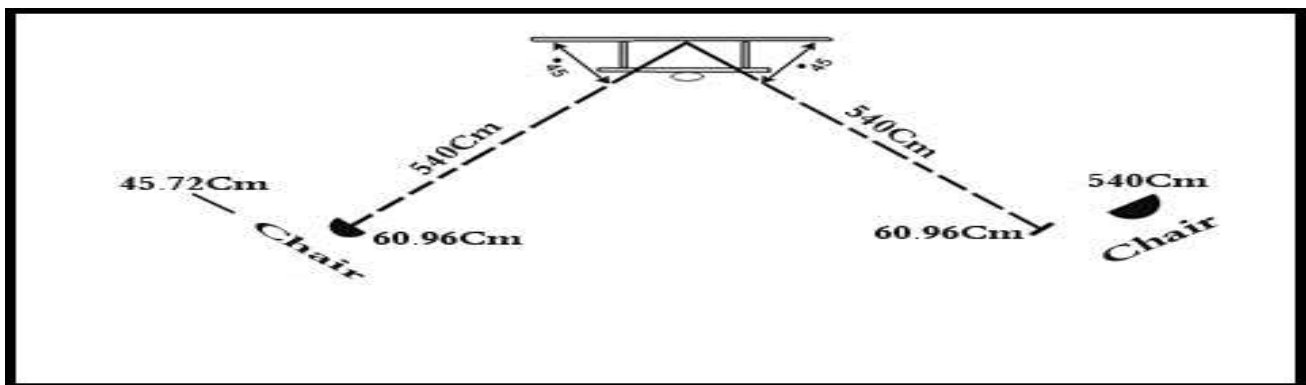


Figure 1: Shows the scoring test of the jump

### Fast-passing Test

**Purpose of the test:** Measure the scroll speed.

4 cm (120 cm x 60 cm), the bottom edge of the floor is 3 feet (90 cm) and a line is drawn on the ground, which is 6 feet (180 cm) from the wall, a stopwatch, a basketball.

### Performance Specification

The laboratory stands behind the line drawn on the ground, which is 6 feet (18 cm) away

from the wall. Using the basketball, the laboratory passes the rectangle on the wall for as many consecutive passes in 10 seconds as the ball cannot touch the ground during performance.

### Registration

The number of times the player touches the ball after passing from the wall in the 10 seconds set for the test, noting that the ball must be directed towards the rectangle each time.

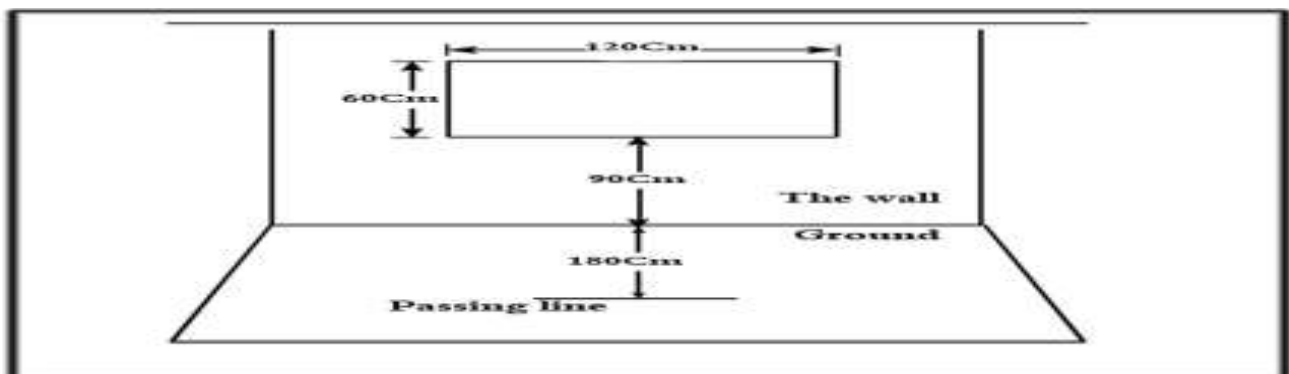


Figure 2: Shows the chest passing test

## The Test of the High Dribble [7]:

### Purpose of the Test

Measure the speed of the plotters high.

### Tools

Basketball court, electronic timer, basketball number (2) legal, tape measure, chalk and whistle to give the start signal.

### Procedures

See diagram below.

Draw two parallel lines (20 m) representing the starting and ending lines, so that (A, B).

### Performance Description

The player takes the standby position from the start high behind the starting line (a) the decree on the ground and with the ball.

Give the starting signal to the player who is running with the high dribble of the dominant arm as fast as possible until he crosses the finish line (B).

### Test Instructions

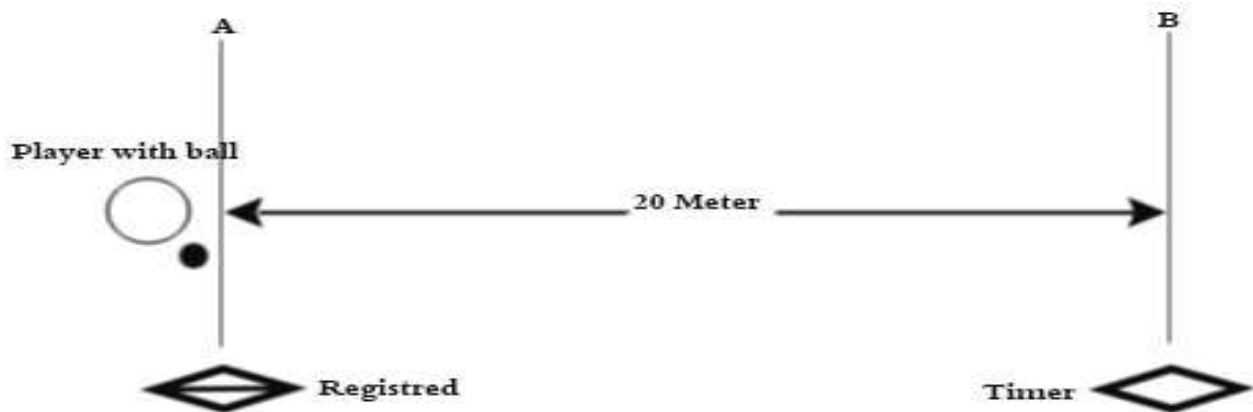


Figure 3: Shows the high-dribble test

## Test Defensive Movement [8]

### Objective of the Test

To measure the speed of the defensive move.

### Tools

Basketball court, medical balls, chalk, stopwatch, whistle, timer or test-based tape measure.

### Performance Method

Points from (1\_6) are determined with the distance between the starting point and the other points of 6.25 m, where the starting point is measured from the vertical point directly from the point of the basket to the ground.

- The player takes the correct position (standby mode from the high start) and with the ball.
- The test ends with the player finishing the finish line (B).
- Each player has only one attempt.
- The number to be registered by the player shall be announced to the next player to ensure the competition factor.

### Registering

Call the names and give the start signal first and record the results.

### Timed

Timing as well as standing at the finish line (B).

### Calculation of Grades

The score of each player is the time it takes to perform the test from the moment it is given the starting signal at line (A) until the finish line (B) is crossed.

The player takes the defensive position. When the siren is heard, the stopwatch is played. The player moves from point (1) to (4, 3, 2) face forward and back to point (1) with a defensive movement back, (4) and return to point (1) move to the points (5, 6) and non-stop movement in this case a lateral defensive movement, and return to the point (1) starting point then stop the clock and time calculation of the movement.

### Registration

- Give the player two attempts and take a better time to try.
- Rest interval between attempts (3) minutes.
- Calculate the time taken by ten seconds.

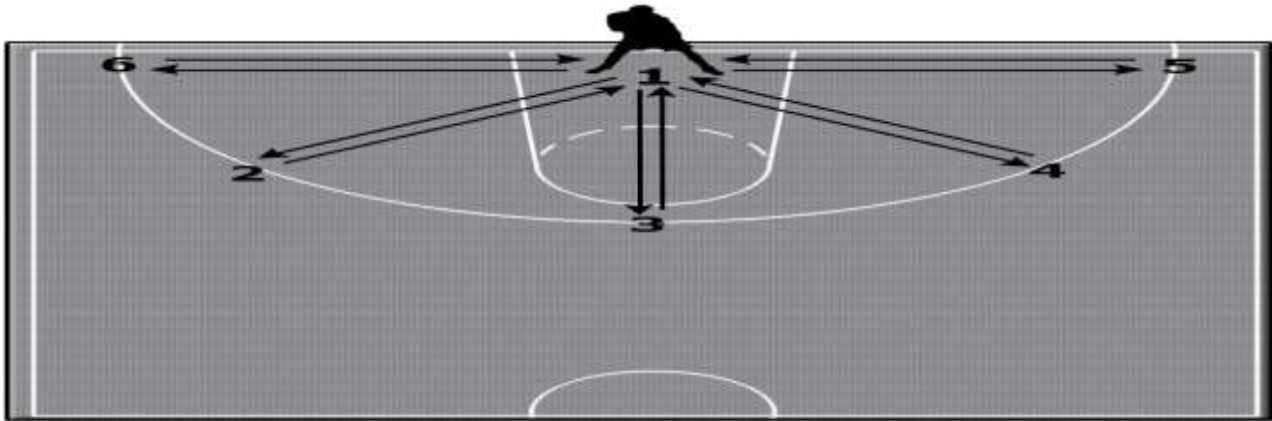


Figure 8: Shows the defensive move test

## Main Procedures

The main procedure was applied by the researchers to the members of the research sample according to the following sequence:

### Pre Test

The researchers conducted the Pretest on Sunday, February 11, 2018 at the Tadamon Sports Club Hall, by measuring the level of performance of the basic skills of the selected basketball in the research (two point jumping, high traction, chest handling, defensive movement) (Na), calcium (Ca), Potassium (K), after a physical exertion. The subjects were subjected to physical exertion. (6 minutes) and at a speed (5 km/h) and at an angle of slope (zero) degrees, and b Swedish exercises are performed for a period of 3 minutes, after which the athlete performs the physical effort and the heart rate reaches (180 z/d). After completing the physical exertion, the blood is drawn directly.

### Exercise Application

The researchers prepared the proposed exercises for the special preparation stage, taking into account the available possibilities and the general level of the research sample, based on the scientific foundations of the sports training and on some scientific sources and references for the purpose of obtaining the best results in developing some basic skills for basketball players.

The exercise focused on working to develop and improve some skills related to the game, including the proposed training exercises and different percentages of skill numbers. The aim was to develop some skills and some skills. The following exercises were applied on Monday, 12/2/2018 to 12/4/2018, where the researchers used the same style or method of the trainer, which is the method of

high-intensity youth training because the players were in the preparation period The number of training units was (24) training units for the experimental group. The researchers identified the intensity with which the skill was trained to develop the skillful side has identified the exercise time for the study sample through the exercise time and intensity to know the performance time and access to the intensity used during the training module, as well as the knowledge of the pulse and return to normal condition is the rest time to reach the level that allows the player to repeat the exercise again and with the same efficiency or before reaching full recovery according to the qualities and abilities Which are trained according to the purpose of the exercises and training unit. It was calculated rest time through pulse which ranged between (120: 110) beats / min was used a number of exercises skills of different qualities (single, double and composite group) where regularized these exercises or exercises depending on the difficulty of performance and purpose of these exercises.

### Posttest

The researchers conducted the post-test on Tuesday, April 13, 2018 at the Tadamon Sports Club Hall by measuring the level of basic skills of the selected basketball in the research. Then, the physiological variables (mineral salts), which were selected (sodium(Na), calcium (Ca), potassium (K)), which were selected as the subjects of the research sample to a physical effort as the athlete performs warm-up on the mobile device for a period of (6 minutes) and at a speed (5 km / h) and at a zero angle, Swedish exercises are then performed for a period of 3 minutes, after performing the physical effort directly, the blood is drawn directly.

The physical exertion and blood pull were done in the same way that the Pretest was carried out in terms of location and time tools.

This axis included the presentation of the results of statistics to the effect of physical exercises in some basic skills and antioxidants for basketball players after the treatment of statistical and in line with the objectives.

## Results and Discussions

**Table 1: Shows the values of the mean and the standard deviation of antioxidant performance and the performance of some basic basketball skills in the pretest and posttest**

S	Variables		Unit measurements	Pretest		Posttest		(t) calculated	Significance of differences	Significance
				Mean	STD. EV.	Mean	STD. EV.			
1	1	Sodium(Na)	Mille Mall	143.65	5.21	137.12	15.73	4.76	0.000	Sig.
2		Calcium(Ca)	Mille Mall	2.61	0.43	9.28	2.21	3.49	0.001	Sig.
3		Potassium(K)	Mille Mall	4.24	0.64	9.31	1.38	3.55	0.000	Sig.
1	basic skills	The scoring by jumping two points	Sec.	3.24	0.33	3.88	0.67	3.67	0.000	Sig.
2		High dribble	Sec.	3.87	0.23	3.40	0.12	3.62	0.000	Sig.
3		Chest passing	Sec.	12.83	1.12	13.45	1.82	3.56	0.000	Sig.
4		Defensive movement	Sec.	24.36	2.48	23.85	2.05	3.87	0.000	Sig.

The results show significant differences between the Pre and post tests and the benefit of the post-test in the physiological variables (mineral salts). The researchers see the reason for these differences in the significance variable to the structured training of the exercises used, as "Sports training leads to changes in blood,[9] and that the sodium variable is considered to be one of the main mineral elements in the human body and has a great effect, especially during sports activity, so that there is a percentage And that the movement of sodium reverse by the transfer of sodium inside and outside the cell that lead to the lack of sodium blood as a result of the athlete taking amounts of fluids and salts before, during and after the physical effort, which leads to the process of balancing between loss and compensation and thus maintain the proportion of sodium in the body sport [10].

That the potassium variable is one of the important metals in the body of the athlete, which is inside the cell in the amount of (90%) and the amount of nature of potassium in plasma blood between (3.5 - 5.5 meg \ l), "Potassium plays an important role in the contraction of muscle fibers and in the maintenance of myocardial activity. Magnesium relaxes the muscles, as it plays a role in signals or stimuli between the nervous and muscular systems.

The body, it forms approximately (1.5 - 2%) of body weight almost, and has an important role in constriction And the muscle growth, especially the heart muscle, as the element of calcium role in the contraction of muscles, while the potassium and sodium and magnesium role in the muscle spasm ,[11] and stresses "It changes in blood due to regular exercise in sports in a certain period Which leads to the adaptation of blood to the performance of physical training and these changes include an increase in blood volume and size of hemoglobin and red corals and other variables of the components of blood ",[12] and the proportion of mineral salts after the effort increased as a result of water loss during sweating,

"The biggest result of my work Severe perspiration is the loss of the body to water where it is during the exercise hard and strong perspiration constantly causes the person loss of between 1-2 kg of body fluids and the high level of salts in the blood as a result of exercises where the body loses different proportions of fluids and depend on the quantity of these ratios on the amount Water lost at the time of sports activity, as well as environmental conditions. "The researchers believe that the game of basketball is one of the games that are characterized by speed, so you need a lot of exercise, which is characterized by speed

during the exercises, and in order to meet the requirements of this game, Type Which is given to players should be characterized by high speed, that is, there is a speed in the implementation of the basic skills of the basketball through the rationing of physical loads in proportion to the body's functional devices as well as with the training system or the type of game, the development of technical, physical and physiological aspects of the type of activity Which is consistent with the nature of performance, improves the blood circulation of the muscles and improves the work and efficiency of the sodium and potassium pump responsible for regulating the concentrations of sodium and potassium outside and inside the cells, and the need to pay attention to healthy sports nutrition, These elements are essential for the athlete to be able to resist the fatigue caused by the athlete. Perform their various duties in training and during the game with a high degree of precision and concentration before feeling stressed. Thus, the researchers have achieved the fulfillment of the requirements of achieving their research objectives to know the differences between the Pre and posttests [13].

As for the basic skill variable in the basketball, there was a significant difference between the Pre and posttests. The researchers attributed this to the use of exercises prepared by the researchers with high percentages of skill preparation, the use of complex exercises and skill exercises for speed of performance, which led to improved muscular compatibility and development of the device "The speed of performance is the maximum speed of muscle contraction with other muscles at performance"[14]. The training modules used in the training curriculum included exercises for the development of speed, whether speed or speed of performance (speed of performance).

The researcher gave importance to the exercises of speed of performance and according to the exercises used in the extension of the research for short and long training exercises as well as jumping and short- And long and defensive exercises, "where basketball is one of the fast sports so speed is a necessary and important attribute must be owned by the player"[15]. Also stressed the performance of speed exercises at the beginning of each exercise of the curriculum used because the speed must be trained at the beginning of the training

module, which researchers relied on the development of speed exercises at the beginning of the training module after the warm-up immediately, and researchers believe that the element of speed of elements that develop The speed of response and the speed of motor performance as well as the development of the speed of the players is working to increase the ability to perform the basic skills quickly and accurately within the stadium through the speed of satisfaction in the performance of movements and superiority over the competitor and the performance of duties in an effective manner, [16] It is noteworthy Bastawisi "The recipe speed plays an important role in most sports activities, especially related to the performance of a particular skill requires a certain muscle contraction speed to achieve the goal of the movement, handling the ball as the speed is one of the most important physical qualities that lead to improve motor performance level"[17].

The researchers attributed the reason for the development of scoring by jumping to the exercises used in the curriculum in the development of this skill, which focused on the speed side mainly as well as the application and repetition of these exercises in each module throughout the period of the curriculum and also focused the researcher on the accuracy in the application of scoring exercises because accuracy is a complementary to speed In the performance, the player cannot achieve any positive result without having these two qualities during the implementation of skills, and attributed the researchers the reason for differences in the skill of dribble because of the application of exercises prepared by the researcher and placed within the training modules allocated to the experimental group live This offensive skill is the basis of the basketball player's move from defense to attack in order to get to handling or scoring. In some cases, the player needs to navigate the ball without using any other skill to reach the basket and score points because the basketball law prevents the player from walking the ball, Al-Taie confirmed that "dealing with players with the ball increased the players' feeling with the ball and visualize them in terms of mass and size as well as the performance of those exercises daily and this made the player more control and control of the ball"[18]. The researcher also attributes the development of defensive movement to the exercises used in

the curriculum in the development of this skill as well as the implementation of these exercises and repetition in each training unit throughout the curriculum, taking into account the performance of this skill exercises with a pair because these exercises to be shared by two players or more help to raise the level of training activity And act on the speed of motor performance and accuracy and away from the boredom that affect the players because the movements of the defensive feet are important factors in the defensive move and stop the movement of the opponent and prevent the arrival of the player to the basket, and movements of the feet of the basic skills in defense and attack in defense must either in the attack the

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