

*The Effect*  
*the use of Ballistic Training*  
**Method on some Physical**  
**Variables and the Skill**  
**Level of Performance of the Players**  
**Boxing**

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**Abstract**

*This research aims to identify the effect of use training Ballistic method on some physical variables for boxing players (muscle ability - speed transition - endurance power - agility), and identify the effect of the use of ballistic training method on the skill level of performance of the players boxing. Researcher use the experimental method experimental design per set using pre and post measurements. Selected sample way intentional from the players University Kafr El-Sheikh boxing and included 10 players and who is a researcher responsible for training and so to participate in the*

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*tournament Egyptian universities boxing for the academic year 2011/2012, which was held in the period from 24/04/2012 to 23/04/2012 at the University of Cairo. Data Collection Tools: Rstamitr, A tape measure, Stopwatch rounded to the nearest, Medical 5 kg ball, Acetic rubber, Jeter weights, Free weights, Iron bar, Swedish seat, Physical tests[9,10], evaluate the level of performance skills through three arbitrators, provided that each of them a doctorate degree in training boxing where it was put a degree of 20 for each boxer according to the performance of the skill and then calculated the average score of the arbitrators and that in each of the pre and post*

**Key words:**

Ballistic Training, Physical Variables, Players Boxing

**Introduction**

Due to the huge technological advance in science of sports training and development scene in the methods and training methods appeared a new method called resistance ballistic a method a training can from which coach to design an effective training program to develop the muscle Ability and speed as the nature of resistance training ballistic features that lead explosively It connects training elements between Ableometry and weight training includes lifting weights relatively light and at high speeds[1]. And training a ballistic performance explosive resistance movements and includes gravity or extrusion tool as quickly as possible[2].

And ballistic movement has three main phases, namely:

- ✓ The first phase of the movement

is done by defibrillation dereliction which movement begins

- ✓ The Second Phase a gradient or landing phase, which depends on the wheel (the amount of movement) generated in the first phase.
- ✓ The Third Phase is the stage of diminishing speed and accompanied by constriction muscle eccentric[3].

And most athletic movements featuring stage contraction eccentric followed directly stage contraction dereliction which is called the Department of prolongation, negligence and the key to training is to maintain as much as possible on the kinetic energy to convert from stage crunch eccentric to dereliction crunch as quickly

as possible and this transformation called reference power and the ability to produce muscle strength quickly named by the rate of development, speed and strength development highways are affecting that rate[4]. And training ballistic used to overcome the lack of speed resulting from training with weights in addition to the development of working muscles and the interview and installed it also describes the movements that characterized the increased speed to the maximum extent and training includes ballistic on training (lifting weights lightweight and high speeds - paying football - medical use jacket weights) since ballistic training methods there is no cut or decrease in speed so they maintain compatibility for most games[1]. And what training is already ballistic strength development highways (explosive force) and then achieve an accuracy which builds on the strengths of highways where the speed performance of the player's skill in time and the right place and therefore training is ballistic offers typical form of access to performance sports to the fullest extent[5,6]. The activity features boxing from other distinctive dynamic work force, speed and changing motor ability. Which notes in movements boxers during payment punches or defense and sudden change to the conditions of punching different and which require the boxer to be on a high level of motor performance, which is characterized by force and speed and the ability to determine the punches by positions different play with burdens competition throughout the game[7,8]. It highlights the importance of research already being applied to a new training method

(method ballistic resistance training) in the development of some of the physical variables and devise new ways to increase the effectiveness of the performance and development of players boxing.

### Aims:

1- to identify the effect of use training Ballistic method on some physical variables for boxing players (muscle ability - speed transition - endurance power - agility).

2- identify the effect of the use of ballistic training method on the skill level of performance of the players boxing.

### Hypotheses:

1- There are significant differences between pre and post tests for dimensional measurement in the physical variables of boxing players.

2- no statistically significant difference between pre and post tests for dimensional measurement in the skill level of performance of the players boxing.

### Materials And Methods

**Approach:** Researcher use the experimental method experimental design per set using pre and post measurements.

### Sample Research:

Was selected sample way intentional from the players University Kafr El-Sheikh boxing and included 10 players and who is a researcher responsible for training and so to participate in the

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tournament Egyptian universities boxing for the academic year 2011/2012, which was held in the period from 24/04/2012 to 23/04/2012 at the University of Cairo.

### **Data Collection Tools:**

Rstamitr, A tape measure, Stopwatch rounded to the nearest, Medical 3 kg ball, Acetic rubber, Jeter weights, Free weights, Iron bar, Swedish seat, Physical tests [9, 10], evaluate the level of performance skills through three arbitrators, provided that each of them a doctorate degree in training boxing where it was put a degree of 20 for each boxer according to the performance of the skill and then calculated the average score of the arbitrators and that in each of the pre and post tests.

### **The survey:**

This study was conducted in the period from 05/02/2012 to 09/02/2012 and players on the team, Benha University and numbered 10 players and their purpose:

- ✓ Identify the difficulties they may face during measurement researcher.
- ✓ Access to the best arrangement for the measurements.
- ✓ Scientific transaction account (Validity - Reliability) of physical tests used in research.

### **Executive search steps:**

#### **Ballistic design a training program:**

The research preparing the exercises, which are in the program ballistic proposed

depending on the survey reference to the foundations of program design and in the light of the availability of references and previous studies, program has been designed for 8 weeks, 3 units per week and is divided into three periods (initiation period - period preparation - the pre-competition period), has included the training program (payment in front of the chest - squat half - Download hoop jump - exercises using medical Balls - training using Jeter weights - exercises using ropes rubber).

1- Foundation period 3 weeks: And include creating a player to adapt to the training program and be strongly medium and relatively few breaks

2- preparation period 3 weeks: And where the training is more resistance training and focus training muscle as fast as similar to the speed of movement during the competition and be high strongly workouts and rest period relatively few.

3- the pre-competition period 2 weeks: In this period, up to the top of the power players and the ability and other physical attributes, a period of work with a high intensity and volume intra little comfort for long periods of time.

### **Application program:**

#### **- pre tests:**

Measurement was conducted pre as follows:

- ✓ First day: Sunday 2/12/2012 physical tests.
- ✓ Second Day: Monday, 13.02.2012 assess the skill level of perfor-

mance by the arbitrators through the tournament took place between the players sample.

*- The implementation of the program:*

The researcher applying the proposed ballistic training program on basic research sample in the period from 02/19/2012 to 04/12/2012 and the period of application of the program 8 weeks, 3 units per week.

*- post test :*

After the completion of the implementation of the program researcher conducted a ballistic dimensional measurement as follows:

- ✓ First day: Sunday 4/15/2012 physical measurement tests.
- ✓ Second Day: Monday, 04.16.2012 assess the skill level of performance by the arbitrators through the tournament took place between the players sample.

*Statistical treatments:*

Have been carried out all statistical treatments of the data using computer packages of statistical programs where Spss Statistical analyzes included the following: arithmetic mean, median, standard deviation, coefficient of torsion, value of Mann Whitney, correlation coefficient, percentage of improvement, test (T) to calculate the significant differences,

**Results And Discussion**

*Table (1):*

*Significant differences between pre and post tests and percentage improvement of the research sample Variable in the of muscle power (arms - legs) (n= 16)*

Variables	UM	Pre-test		Post-test		Difference	(t)value	Improving (%)	
		Mean	SD±	Mean	SD±				
<i>Muscle ability of the arm and shoulder</i>	<i>push medical 3 kg ball with the right hand</i>	<i>Meter</i>	<i>8.985</i>	<i>0.610</i>	<i>10.875</i>	<i>0.288</i>	<i>1.89</i>	<i>11.736</i>	<i>21.03</i>
	<i>push medical 3 kg ball with the left hand</i>	<i>Meter</i>	<i>8.055</i>	<i>1.132</i>	<i>10.380</i>	<i>0.352</i>	<i>2.325</i>	<i>7.894</i>	<i>28.86</i>
	<i>push medical ball 3 kg Hand</i>	<i>Meter</i>	<i>4.350</i>	<i>0.320</i>	<i>4.880</i>	<i>0.071</i>	<i>0.53</i>	<i>5.183</i>	<i>12.18</i>
<i>Muscle ability of the leg</i>	<i>Broad jump of stability</i>	<i>Meter</i>	<i>2.442</i>	<i>0.141</i>	<i>2.755</i>	<i>0.083</i>	<i>0.312</i>	<i>8.160</i>	<i>12.81</i>

*\* T table value on  $p \leq 0.05 = 2.26$ . UM = Unit of measurement; SD = standard deviation.*

**Table (2):**

*Significant differences between pre and post test measurements and percentage improvement of the research sample Variables (transitional speed - endurance power - agility) (n=16)*

Variables		UM	Pre-test		Post-test		Difference	(t) value	Improving (%)
			Mean	SD±	Mean	SD±			
speed transition	30 m sprinting from the starting beginning	seconds	4.560	0.171	3.642	0.172	0.918	13.872	20.13%
endurance power	italics down drape arms	number	51.800	4.263	61.700	5.250	9.90	6.945	19.11%
agility	italics down to stand 10th	number	4.800	0.788	6.300	1.595	1.500	6.708	31.25%

\* T table value on  $p \leq 0.05 = 2.26$ . UM =Unit of measurement; SD =standard deviation.

**Table (3):**

*Significant differences between pre and post test and percentage improvement of the research sample In the skill level of performance (n= 16)*

Variables		UM	Pre-test		Post-test		Difference	(t) value	Improving (%)
			Mean	SD±	Mean	SD±			
The skill level of performance	Degree	12.90	0.785	18.10	0.737	5.20	11.75	40.31%	20.13%

\* T table value on  $p \leq 0.05 = 2.26$ . UM =Unit of measurement; SD =standard deviation.

Evidenced by the table 1 the existence of significant differences between the two tests pre and post for post test in ability tests muscle (arms - two men) where the value (T) calculated larger than the value (T) also demonstrates percentage improvement between pre and post tests members the research sample in variables ability muscle of the arms - the feet, where limited percentage improvement between (12.18% - 28.86%), due

researcher to the effect of the training program, which is based on regular training and hold time training as it might contained group exercises ballistic aims to develop muscle ability which contributed significantly to the increase in muscle strength among a sample search.

This is consistent with what he referred both Abdulaziz Alnmr, Nariman Khatib[11] Massad Ali Mahmoud [12]

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to the athletic training organizer leads to efficient musculature is shown directly in the ability of the muscle to contract faster and more explosive during range of motion of the joint whether this power dynamic or static. Also consistent with what Abu-Ela Abdel Fattah (1997 m) to improve muscle ability as a result of regular training, especially if this training contains loads codified according to the capabilities of each player [13].

It is clear from Table 2 there are significant differences between the two measurements pre and post for measuring dimensional in variables (speed transition - bearing strength - agility) where the value (T) calculated higher than the value of (T) spreadsheet, also demonstrates ratio improvement between measurements pre and post at the same variables as confined between (19.11% - 31.25%), due researcher to the impact of the training program and addition of exercises, which rely on changing the direction as well as jump and movements of the feet and also use resistors ballistic different from acetic rubber balls medical and weights which Shares in the development of both (speed transition - endurance power - agility). And consistent with what already pointed to Alsayed Abdalmaqsood [14] that training programs aimed at the development of physical components, which employ a method interval training is high intensity training Recurring lead to the development of speed component types such as speed transition.

And also in line with what the Mohammad Hassan Allawi [15] that struc-

tured training program up player to score fatigue earns recipe endurance and gives property continue, fortitude and adaptation work, and the training programs that contain component fitness such as speed, strength and compatibility and balance and precision combined make the player was able to take different situations to his body as a whole and lead to the development of agility. And consistent results with the current results of studies on resistance training and ballistic performed on the various sports activities and demonstrated improved physical level as a result of exercises ballistic inhalers for the type of activity and little researcher, for example, a study [16,17,18,19]

Evidenced by the table 3 the existence of significant differences between the two measurements pre and post for measuring dimensional in the level of performance skills where the value (T) calculated is greater than the value of (T) spreadsheet, also demonstrates ratio improvement between measurements pre and post, which amounted to 40.31%, due researcher to the training program ballistic and good organization of loads physical terms include high training loads and organize periods of rest and muscle training as fast as similar to the speed of movement during the competition as well as the use of exercises ballistic variety using resistors different Ball medical and acetic rubber and who were working in the same direction neuromuscular skills, which led to an improvement in the skill level of performance with the players sample. This is consistent with what the

Mufti Ibrahim [20] that a good physical preparation contributes to the growth and development of performance and appearance Example performance level.

Also consistent with the findings of the both [16,21,3,22, 2,19] is that the resistance program Ballistic affect performance skills in various games.

## Conclusions

### *The Researcher Concludes the Following:*

1- Training Program ballistic led to a development in the variable ability muscle (of the arms and legs) and reached its highest improved 28.86% of the ability of the muscle of the arm left while the lowest improved 12.18% and that of the ability of the muscle of the arms, and the ratio improved ability muscle of the arm right 21.03% as the percentage of improvement muscle power of leg 12.81%.

2- Use ballistic resistance training program led to an improvement in the variables (transitional speed - endurance power - agility), where the percentage improvement (20.13%, 19.11%, 31.52%), respectively.

3- Training Program leading to improved ballistic performance level skill players boxing sample.

### *Recommendation: The researcher recommends the following:*

1- interest using ballistic resistance exercises to improve physical performance and skill of the players boxing.

2- attention to the application of other ballistic resistance programs for each skill of boxing, according to the nature of the muscle work and knowledge of the effect of that.

3- attention studies using ballistic training programs on different samples of boxing players in terms of age and sex.

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