

# The Speed Of Nerve Conduction Of The Ulnar Nerve And Its Relationship To An Index Of Accurate Right-Punching Performance Of Young Boxers

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*Abstract: The efforts and efforts exerted by scientists, researchers and trainers to reach facts and studies that help the training process to develop the ability of the athletes' functional body systems to achieve high-level athletic achievements are still seeking and exerting efforts. Therefore, reaching results through conducting physical tests has an important role in knowing the effectiveness of training methods that appear from During which the process of adaptation of the body's organs of the athlete. The central nervous system is the control center in the arrangement and solidarity of sensory-motor information to complete the movement, as the information received from the external environment and the body in the brain is dealt with, which in turn is a central processing center for all physical and mental activities and is most influential in the state of high physical performance and achievement (Khalil, Raouf 2007: 5)*

## 1. INTRODUCTION

The boxing game requires a distinctive individual effort and the efficiency of the nervous system because of its speed and accuracy in defense and attack characterized by its technical and tactical movements in performance. Therefore, changing playing conditions creates a lot of new agreement for the player according to the nature of competition, and here lies the importance of research in identifying the speed of nerve conduction and its relationship to an accuracy index Performing a straight right punch for boxers

The research problem lies in the scarcity of research and studies that deal with knowledge of the functional variables in the boxing game, which are involved in producing movement and improving the art of performance for it, because the boxing game needs a large percentage of motor and skill abilities so that the player can perform his functions efficiently and requires players to face events The game that is full of rapid and sudden change.

## 2. RESEARCH OBJECTIVES:

Identify the nerve conduction velocity and the accuracy index of the right straight punch among young boxing players, and the relationship between the nerve conduction velocity and the index of the accuracy of the right straight punch among young boxing players. As for the research hypotheses, there is a significant relationship between the nerve conduction velocity and the right straight punch accuracy index of Young boxing players, the research sample consisted of (12) Diyala Boxing Club players.

The temporal domain: 4-11 / 12/2017 and the experiment was on the hall of the College of Physical Education and Sports Sciences, Diyala University of Sports and the Physiology Lab at the College of Medicine.

Search procedures:

Research methodology: The researchers used the descriptive approach in the survey style for its suitability to the nature of the research used, as the survey method is based on the descriptive approach, which is "the accurate visualization of the interconnected relationships between society, trends, tendencies, desires and development, as the research gives a picture of the reality of life, setting indicators and building future predictions." (Blocked: 2002: 95)

The research sample:

For the purpose of conducting the research, the selection of the research sample must be from the original community, as the researchers apply their research steps and their vocabulary to it, as the selection of the sample represents a great necessity from the main scientific research vocabulary and the sample is considered "(the part that represents the original community or the model on which the researcher conducts all his work) (Said: 1998: 96)

The research sample consists of (6) six players from Diyala Boxing Sports Club, and they are deliberately selected from the research community of (14) players representing Diyala Boxing Sports Club.

For the purpose of avoiding the factors that affect the research results, the researchers conducted homogeneity on the sample in the variables (height, weight, age, training age) and the results of Table (1) showed that the research sample was homogeneous as the torsion coefficient computed in all the above variables was less than ( $\pm 1$ ) This is a good indicator, as whenever the values of the torsion modulus are confined to ( $\pm 1$ ), this indicates that the distribution is moderate or close to it.

Table (1) shows the homogeneity of the sample in the variables of height, weight, age and training age				
Statistical means of variables	Arithmetic mean	standard deviation	Mediator	Coefficient of torsion
Height (cm)	<b>170.57</b>	<b>0.994</b>	<b>170</b>	<b>1.72</b>
Weight (kg)	<b>74</b>	<b>1.067</b>	<b>74</b>	<b>zero</b>
Age (year)	<b>19</b>	<b>0.89</b>	<b>19</b>	<b>zero</b>
Training age (year)	<b>6.66</b>	<b>0.816</b>	<b>6.5</b>	<b>0.857</b>

Devices and tools used in the research: (Sony camera, a device for measuring nerve conduction, a computer, a medical scale to measure weight.

Tests used in research:

Nerve conduction velocity test for motor nerves (medial - ulnar) (Jalal: 2014: 26)

The aim of the test: To measure the variables of motor nerve velocity.

Tools used: (recording electrodes - alarm electrode - computer screen - plaster - tape measure).

Test description: - The recording electrodes are fixed (which is two electrodes, the active electrode and the other the return electrode, and we put the active electrode on the surface of the muscle to be planned and fixed with a plaster, and we put the return electrode on the muscle tendon called the short thumb adductor, and the distance between the two wires is (4) cm Then we put the alarm electrode (and the alarm pole is composed of the two electrodes (anode) and the cathode (cathode). Millivolts), then the motor response appears on the computer screen, and the examiner places the second stimulation on the player from above the elbow in front of the mesial fossa inward, and through the second stimulation the second response appears, then we measure the response between the first stimulus and the second stimulation in (mm / second), and after It appears on the screen of the device a wave of the

results of the motor test of the nerve Which gives us the punch period (LAT), wave amplitude (AMP), area (AREA), period (DUR), and conduction velocity of the motor nerve (NCV).

As for the method for measuring the velocity of the nerve impulse of the median nerve, it is as follows: “From the sitting position, the surface electrodes are installed, which are of two types, sensory electrodes, which are special for testing sensory nerves, and the second is motor electrode, which is for testing motor nerves. Measuring the nerve velocity of the median motor nerve by fixing the electrodes (electrodes) on the lower right side of the palm, then stimulating the median nerve at the middle of the wrist with a voltage of (9.9) millivolts, and then the distance is calculated with a measuring tape or ruler from the point of stimulation at the middle of the elbow joint To fixed electrodes, the measurement was made before and after the physical effort that the player freely punches on a hand pad for a period of (3) minutes after taking the expert opinion.

Kinematic boxing accuracy test (Yassin et al. 1983: 151: 152).

The purpose of the test: to measure the kinematic accuracy of the arms.

The tools: a punching bag with numbers (1-6) fixed on it, not arranged in sequence, a light glove, a stopwatch, a registration form, and a camera.

Performance description: The boxer faces the bag from the position of the movement and stands next to him the coach who determines the numbers to be hit after each call to the boxers and stands on the other side recorded, which counts the number of punches shot on the numbered bag and this is done by photographing the performance and the referee standing next to him.

Scoring: For each correct punch, one score is recorded, so that the final score is (6) marks

Presentation, analysis and discussion of results:

Table (2) shows the arithmetic mean and standard deviations of the research variables		
Variables	Arithmetic mean	standard deviation
Accuracy	3.9583	0.54181
Speed of nerve conduction of the ulnar nerve	58.0020	1.55901

Table (2) shows the computational mean of accuracy of 3.9583 and the standard deviation of 0.54181, the mean of the nerve conduction velocity of the ulnar nerve as 58.0020 and the standard deviation of 1.55901.

Table (3) shows the correlation relationship, the error rate and the level of significance between the variables of speed and accuracy			
Variables	Correlation coefficient	error percentage	Significance
Speed, nerve conduction of the ulnar nerve, res	0.876	0.000	Sign

Table (3) shows the correlation coefficient, which reached 0.876 and the error rate reached 0.000, indicating that there is a significant correlation between the nerve conduction velocity of the ulnar nerve and the kinematic accuracy of the right straight punch.

### 3. DISCUSS THE RESULTS

Most scientific sources indicate that the strength increases with the increase in the speed of nerve conduction and thus these functional variables in terms of nerve conduction velocity affect the physical and skill capabilities. The diameter of the volume of the neuron, which also affects the speed of nerve conduction, is consistent with what was indicated by (Roger Baker and Ather) And that the arrival in the coated axes with the same steps in the axes have

no two lines, but in a critical difference is that the very high voltage currents and the low capacitance of the next two casing, that depolarization current passes through the cytoplasm of the axis until it reaches the low resistance point at the high density Ranveer nodes of the channels Sodium to generate the action potential from it, and thus the action potential appears to jump from the Ranveer node to the next node along the axis, a process called saltatory conduction and encapsulation feature. It is the rapid conduction while reducing the metabolic requirements of the neuron cell, and had it not been for this type of nerve conduction, it would have been difficult for the nerve signal from the brain to reach the peripheral muscle at the required speed. (Mishra: 2005: 844), the two researchers see what explains the relationship between nerve conduction velocity and accuracy, and that accuracy requires the integrity of the nervous system to occur There is a kinetic subtlety.

The researchers reached the following conclusions:

There are clear significant differences between the nerve conduction velocity of the ulnar nerve and the kinetic accuracy index of the right straight punch, there is a significant relationship between the nerve conduction velocity and the motor accuracy index, and the researchers recommend the importance of using neurophysiological tests for boxers, as well as conducting scientific research and experiments on other nerves For arms of the same age group or other age groups.

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