

## Exercises to improve trunk defenses in pioneer category boxers

### Ejercicios para mejorar las defensas de tronco en boxeadores de categoría pioneril

### Exercícios para melhorar as defesas do tronco em boxeadores pioneiros da classe

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#### ABSTRACT

The practice of sports from an early age in Cuba is an objective of the maximum direction of the National Institute of Sports and Recreation (INDER in Spanish) where the integral preparation of the athlete is promoted by integrating all the components of the preparation. In the case of Boxing, the technical and tactical preparation constitutes an essential axis for the work with pioneer athletes. This work has the objective of elaborating a set of exercises that strategically contribute to the improvement of the work of the trunk defenses in school category boxers of Pinar del Río. In order to fulfill the objective, methods of theoretical and empirical level were used in the diagnosis, combined with statistical mathematicians, seeking to confirm the weaknesses and potentialities in the work of the trunk fenders in the pioneer category, to allow their improvement. In observations and interviews made with coaches, from the diagnosis to training sessions of the boxing team, category 11-12 pioneer, it was possible to corroborate that there are deficiencies in the work of the trunk defenses to counteract attacks with straight and cross blows to the face, specifically, since they do not have a variety of exercises for the performance of such

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work. All this allowed to verify the scientific problem and to plan a group of customized strategic exercises for the improvement of the trunk defense in the school category boxers, for the trainers in function to eradicate the deficiencies detected in the diagnosis, verifying its effectiveness from the specialists' criterion.

**Keywords:** Boxing; Tactical technician; Trunk defense.

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## RESUMEN

La práctica deportiva desde edades tempranas en Cuba es un objetivo de la máxima dirección del Instituto Nacional de Deportes y Recreación (Inder) donde se potencia la preparación integral del atleta, integrando todos los componentes de la preparación. En el caso del boxeo, la preparación técnico-táctica constituye eje esencial para el trabajo con los atletas de categoría pioneril. Este trabajo tiene como objetivo elaborar un conjunto de ejercicios que, estratégicamente, contribuyan al mejoramiento del trabajo de las defensas de tronco en boxeadores categoría pioneril de Pinar del Río. Para el cumplimiento del objetivo, se utilizaron en el diagnóstico métodos del nivel teórico y empírico, combinados con los matemáticos-estadísticos, buscando constatar las debilidades y potencialidades en el trabajo de las defensas de tronco en la categoría pioneril, de manera que permitiera su mejoramiento. En observaciones y entrevistas realizadas a entrenadores, desde el diagnóstico a sesiones de entrenamiento del equipo de boxeo categoría 11-12 pioneril, se pudo corroborar que existen deficiencias en cuanto al trabajo de las defensas de tronco para contrarrestar los ataques con los golpes rectos y cruzados a la cara específicamente, ya que no poseen variedad de ejercicios para la realización de dicho trabajo. Todo ello permitió constatar el problema científico y planear un grupo de ejercicios estratégicos personalizados para el mejoramiento de la defensa de tronco, en boxeadores categoría pioneril para los entrenadores, en función de erradicar las deficiencias detectadas en el diagnóstico, constatando su efectividad desde el criterio de especialistas.

**Palabras clave:** Boxeo; Técnico táctico; Defensas de tronco.

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## RESUMO

A prática do desporto desde a mais tenra idade em Cuba é um objetivo da direcção máxima do Instituto Nacional de Desporto e Recreio (Inder) onde se promove a preparação integral do atleta, integrando todos os componentes da preparação. No caso do Boxe, a preparação técnico-táctica constitui um eixo essencial para o trabalho com os atletas pioneiros. Este trabalho visa a elaboração de um conjunto de exercícios que, estrategicamente, contribuem para a melhoria do trabalho das defensas de tronco em boxers pioneiros da categoria Pinar del Río. A fim de cumprir o objetivo, foram utilizados métodos de nível teórico e empírico no diagnóstico, combinados com métodos matemático-estatísticos, procurando confirmar as fraquezas e potencialidades no trabalho das defensas de tronco na categoria pioneira, de uma forma que permitisse a sua melhoria. Em observações e entrevistas realizadas com treinadores, desde o diagnóstico às sessões de treino da equipa de boxe da categoria 11-12 pioneira, foi possível corroborar que existem deficiências no trabalho

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das defesas tronco para contrariar ataques com golpes retos e cruzados no rosto especificamente, uma vez que não têm uma variedade de exercícios para a realização de tal trabalho. Tudo isto permitiu verificar o problema científico e planejar um grupo de exercícios estratégicos personalizados para a melhoria da defesa do tronco, em boxers de categoria pioneira para os treinadores, em função de erradicar as deficiências detectadas no diagnóstico, verificando a sua eficácia a partir do critério dos especialistas.

**Palavras-chave:** Boxe; técnico tático; Defesa do tronco.

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## INTRODUCTION

Greek philosophers such as Aristotle, Aristophanes and Plutarch appreciated, in this sport, virtues in the physical preparation of athletes and in the fighting spirit, a very valuable volitional quality in the formation of man (Alfonso, J. 1988).

Boxing "has had a vertiginous and growing development in the world and our country is not exempt from it. The work carried out by the technicians and specialists in this virile sport, from its beginnings, has set the standard at world level, being recognized by many, as a world power. In addition, with the systematic and planned training, together with the knowledge of the great coaches of our country, the Cuban School of Boxing was founded, recognized nationally and internationally" (Machuat, G. et al., 2017).

Contact sports, including boxing, are characterized by actions of high and intermittent intensity, followed by periods of lower intensity (Zamora, R. 1995). It is these high intensity actions that will make the difference in terms of performance and the result of the competition, based on fundamental technical actions with combinations and against attacks of blows, either to the face or to the trunk.

All the results acquired over time have corroborated the successes obtained in various latitudes of the world, making this sport the flagship of Cuban sport. For this reason, every day greater and better performances are demanded in order to continue with the victories. In this sense, a great deal of work has been done from the physical and technical-tactical point of view to achieve such results, both nationally and internationally.

Pinar del Río province has always been characterized by its outstanding boxing results, both at national and international level, due to the places obtained in different competitions. Due to the above mentioned, the expectations and demands from the competitive point of view grow every day. Along with this, there has to be an exhaustive fulfilment of the teaching plans that allow growth from a sporting point of view.

It is necessary to point out that, in order to achieve these positive results, within this virile sport, the scientific-methodological work has been taken into account as a significant aspect, depending on the deficiencies detected over time. All this has allowed to grow objectively, from the scientific point of view, the work of boxing,



which undoubtedly makes the methodological work more concrete in terms of what we actually want to develop.

Boxing is a sport that requires great objectivity within sports training in order to accurately achieve the objectives set, both from a technical-tactical and a physical point of view. The practice of this sport begins at an early age (9-10 years) and children of this age are very receptive to everything that is taught to them and, for this reason, one must be very specific in what one really wants to know through sports training.

In the course of time, Pinar del Río athletes have been very technical boxers and they waste great courage and beauty during the fights, all of which requires doing, at all times, an exhaustive physical and technical-tactical preparation. For this reason, we have been consistent with this maxim, in this sport, in the province of Pinar del Río and specifically in the head town to continue with the legacy of our predecessors.

Today, many of the great champions in boxing have similar levels, both in physical and technical preparation and in the volitional aspect. Therefore, in more or less similar conditions, victory in great bouts is conditioned by the level of tactical art. It is known that many competitors have made excellent preparations, with a high-level technical team, but at the moment of the fight, they have used an incorrect tactic and this has led them to a fatal outcome in the fight.

In today's boxing, tactics have increased in importance, becoming a fundamental component of boxing preparation. The effectiveness of the tactic depends mainly on a good technical level, it is not possible to execute a successful tactic, if the boxer does not have an adequate command of the execution of the technical fundamentals of boxing, as the technique provides the means and the tactic guarantees its adequate use in the fight.

The tactical direction of the fight is closely related to the depth of the fighter's tactical thinking, the degree to which he masters the technical basics of boxing and the ability to analyze his opponent's actions. The more varied and diverse the boxer's technical mastery, the more effective and variable his tactical performance will be.

In boxing, a total mastery of logical thought is required to respond to the different actions that take place in the fight in order to meet current demands. In this sense, [Alburquerque, M. B. \(2013\)](#), stated that

"Combat situations are so fast, complex and changeable, that the sportsman can hardly stop to evaluate the actions of the opponent and must execute the response action that most corresponds to the situation. That is why, during the decision-making process, the solution of tactical tasks depends, to a great extent, on tactical habits and, fundamentally, the athlete operates with the objects that he perceives directly and not with the imagined ones and with those links that are given directly in the perception".

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For this reason, it is agreed that the development of technical-tactical thinking in combat sports constitutes one of the research demands of these disciplines. Combat sports, due to their dynamics, require from the athlete the quick and effective solution to the different tactical problems that are presented during the combat (García, J.M. and *et al.*, 2018).

Thinking is valued as the most important process for a proper technical-tactical execution of the athlete, which links tasks, conditions and ways of solution. It implies planning actions, based on foresight and immediate anticipation, which have an individual and collective character and their particularity depends on the type of sport (Díaz, P.L. 2015).

Methodologically, technique and tactics are two fundamental components within the process of preparation of the sportsman or woman, but in practice, for their study and improvement they are united, that is to say, a technical element is taught and perfected as well as its tactical variants. In order to achieve successful results in sport, we must also bear in mind the strategic component due to its close relationship with tactics.

The strategy: it constitutes the theoretical project carried out by the trainer and the competitor to create the most suitable route or formula to achieve the proposed objective, analyzing the fundamental questions about the opposite, from a technical-competitive point of view.

After investigating the opponent's fighting characteristics and the study of their combats, multiple questions arise to which the trainer and the sportsman must give answers at the moment of carrying out the strategy. Among the possible questions, the following predominate:

- a) What is your combat experience, personal record and latest results?
- b) What are the combative characteristics of the opponent?
- c) Which technical elements (hits and combinations) do you use the most?
- d) At what distance does he perform best?
- e) Technically and tactically, what are their strengths and weaknesses?
- f) What conditions do we have and what do we want?
- g) What is the scenario where the fight will take place?
- h) What do we need to do to reach the proposed objective?

After analyzing the possible responses and finding favourable solutions, the strategy is drawn up which sets out the overall plan for achieving successful results. The tactic will be used to effectively achieve the strategic plan.

The planning of the strategy is of vital importance because all these measures, which are planned before the fight, support the combat direction, guiding the fighter on how to put all his tactical knowledge into practice during each of the rounds. Moreover, it guides him to modify his work if necessary. All this helps to achieve an optimum economy of energy in carrying out the actions, as well as favoring the



process of recovery between the rounds, all of which gives the fighter an advantage in his desire to achieve victory.

It is reiterated by many connoisseurs of the boxing theme that no competition or boxing match is the same as another, even when two boxers are facing each other in a revenge fight. Therefore, the fighter must demonstrate a high capacity of tactical mastery in order to be able to carry out effective combative actions that allow him to take advantage of his opponent's deficiencies, using a typical form of confrontation, achieving clear benefits in the direction of the actions, making it clear, taking the initiative of the fight, even being able to carry out actions to modify the direction of the match, if necessary.

In professional Boxing and Mixed Martial Arts (MMA), one of the main objectives of the coaches and different teams is to look for new training alternatives that allow the development of the competitors' tactical thinking. Therefore, the importance of tactical preparation increases every day. We cannot imagine a successful boxer without the use of an adequate tactic (Díaz, P.L. 2015).

Sport offers a wide range of emotional experiences, of varied influence, being frequent those associated to sport violence. Sporting competitions are characterized by the presence of a strong excitement that has received the name of "sporting fury". During this state, the sportsman or woman feels enormous strength, does not experience fatigue, all his psychic processes are sharpened and he shows the ability to react very quickly and strongly. It is usual, in this state, to have a great animation of actions, coarse language, the use of anti-regulatory force and the transgression of the norm. This situation imposes on the sportsman or woman the need for self-control, to control their emotions (Portuondo and Castellanos, 2014).

For this research, which object is trunk defenses, the emphasis is on tactics and their technical correlation, as defenses are an essential element of the technical-tactical binomial, as well as the proliferation of the culture of peace.

Sport and physical activity can contribute to peace and non-violence processes due to their ability to bring people together, to encourage community participation around a common activity, their ability to inspire and motivate young people and adults during sport and games, as well as their potential as educational tools and platforms for the transmission of values.

The systemic approach to the boxer's training process defends that the result does not depend on the sum of applied sciences but, above all, on the dialectic interaction between them and, through the pedagogical sciences, this axiom becomes more effective (Albuquerque, M.B. 2013).

Boxing is a sport that requires great objectivity within sports training in order to accurately achieve the objectives set, both from a technical-tactical and a physical point of view. Since the practice of it begins at an early age (9-10 years) and children of this age are very receptive to everything that is taught, it is for this reason that



one must be very specific in what one really intends to do and know through sports training.

## **MATERIALS AND METHODS**

The research was carried out from the Faculty of Physical Culture at the University of Pinar del Río, in the "Giraldo Córdova Cardín" boxing gym, with coaches and athletes. Both theoretical and empirical methods were used, with emphasis on observation, interviews, document analysis, induction-deduction and historical-logical.

The sample was made up of three coaches from the gymnasium, with more than ten years of experience in this work and ten athletes as a sample of a population of 16.

By means of the diagnosis carried out at the training sessions (24), where empirical methods were put into practice, such as: observation, interview, weaknesses could be highlighted with regard to the work of the trunk defense, among which the following can be mentioned: lack of variability of exercises, insufficiencies with regard to the logical order of execution in the training unit, little systematization of the work of the hooks during the microcycles and deficiencies with regard to the correction of errors. These weaknesses and regularities show the need to improve the execution of trunk defense in pioneer category boxers, by means of a methodology that allows the work of coaches and athletes from the training unit for the improvement of the trunk defense.

## **RESULTS**

The characterization of the technical preparation process in boxing (according to Pip Boxing). It is the pioneer category an age that, within the psychomotor particularities, constitutes a stage of learning and development of the muscular coordination in the process of adequacy of the various forms of realization of the technique, in the process of learning the sport training in the athletes.

Athletes between the ages of 11 and 12 years old have as a specificity in sport a progressive development of the workload more than its intensity; in essence, this stage requires a continuous and systematic improvement of the technical exercises and in the technical preparation for their later development.

### **Analysis of the results obtained in the observations made to the training sessions of the boxers category 11-12 years of the Project "Roberto Amarán"**

In general, 24 observations were made to training units during all stages of sports training.

The first indicator in the observation guide is whether the skill objectives are correctly framed with regard to the work of the trunk fenders. In this sense, it was possible to corroborate that there are deficiencies in the correct formulation of the objectives,



as on several occasions the objective was not measurable and the skill to be achieved was not always the most appropriate. This could be seen in 14 of the 24 observations made to the training units, which means 58 %.

The second indicator that was aimed at witnessing how often the trunk defences are worked on during the training sessions, presented, in our opinion, difficulties, since only in four of the 24 observations, representing 16 %, work was done on the trunk defences, since those that were worked on most were the arm defences, specifically the blocks.

In the next indicator, which was about whether a differentiated work is done for the improvement of the trunk fences, it could be observed that it was deficient since only in two observations of the 24 that were made, which means 8 %, only a differentiated work was done with some boxers for the correction of the technique for the execution of the trunk fences. All this allows to express that there are deficiencies in this sense.

The fourth indicator of the observation guide was aimed at witnessing the variability of exercises used in training to improve the trunk defenses. In this sense, it was possible to observe that the exercises that were executed are deficient since, in two observations, which represents 8 %, only two exercises were carried out that lacked methodology for their execution, all of which allowed to corroborate that there are deficiencies in this sense.

In the fifth and last indicator, which refers to the frequency with which the trunk defenses are worked during the training microcycles, it could be corroborated that in this sense it is very variable since, sometimes, two were worked and in another, frequency 1, which is not objective that these frequencies are worked in the microcycles. With this frequency, 100 % of the observations made were made.

The coaches were also interviewed in order to obtain information on how the trunk fenders of the boxers in the 11-12-year-old category of the "Roberto Amarán" project in the municipality of Pinar del Río are working.

The first question, which was directed to know the priority given to the defenses according to their importance to achieve a better defensive behavior by the athletes, presented different criteria since a coach who occupies 50 % of the interviewees expressed that he gives more importance to the leg and arm defenses. The other trainer who represents the other 50 % expressed that he gives more importance to the trunk defenses because of the options it offers for the realization of an objective counterattack.

The second question, which was directed to that they could give a brief explanation of how they realize the trunk defenses from the training unit, corroborated that, in this sense, there existed similarity in the emitted answers, since they agreed in that they do not give much attention to the trunk defenses and when working, it is developed from one to two times per weeks, which is not sufficient to create the motor habit for the development of this skill. Moreover, in most cases, this defense is only executed on straight blows.





The third question, which refers to whether they consider that trunk defenses can positively influence the positive results of the fight, presented similar criteria as both coaches expressed that they do, for 100 %, because it allows the athletes to make more effective counterattacks, they do not leave the contact zone, moreover, it gives them the ability to react to undertake defensive and offensive actions with effectiveness and precision.

The fourth question was about the frequency with which the work of the trunk defenses is carried out to achieve their improvement, from the training unit. Here the answers were somewhat different, since one coach expressed that it should be at least three times per week and the other said twice, for 50 %, although there was agreement when they expressed that, in this sense, there are shortcomings since they work it once or twice per week.

In the fifth and last question, which was directed to them to make a reference of the exercises that they carry out to achieve the improvement of the trunk defenses during the training unit, it could be said that there are deficiencies since they did not know how to explain correctly the exercises that they develop, although they expressed that fundamentally they execute the trunk defenses against straight blows.

### **Proposal of exercises to improve the trunk defenses of the boxers category 11-12 years**

With the foundation of this proposal, it is not intended, under any circumstances, to eliminate the traditional methodology for teaching trunk defenses and the exercises that are performed, but to give some new exercises to enrich this methodology, specifically for athletes, which is the reason for research. It is also intended to give a numerical order to the trunk defenses to make their teaching more viable.

**Objective:** to improve the execution of the trunk defenses of the boxers' category 11-12 years of the project "Roberto Amarán" of the municipality of Pinar del Río.

### **Teaching order for trunk defenses**

First the tilt defenses should be taught and then the rotation defenses in this order:

1. Tilting the trunk to the left.
2. Tilting the trunk to the right.
3. Hyperextension of the trunk (caballito).
4. Rotation of the trunk towards the left.
5. Rotation of the trunk towards the right.



## **Exercises to be executed in a special way for the work of the trunk defenses**

1. Exercises for the execution of trunk tilting defenses from the combat stop on the spot without a partner. (They are always executed at the command voice of the teacher or at the clap).
2. Exercises for the execution of the trunk tilting defenses from the combat stop on the spot in pairs.
3. Exercises for the execution of the trunk tilting defenses from the pendulum movement without a partner. (Always executed at the command voice of the teacher at the clap).
4. Exercises for the execution of the trunk tilting defenses from the pendulum movement in pairs.
5. Exercises for the execution of the trunk tilting defenses from the step-in assault in the place without partner.
6. Exercises for the execution of the trunk tilting defenses from the assault step in the paired position.
7. Exercises for the execution of the trunk tilting defenses from the assault step in the unpaired place.
8. Exercises for the execution of the trunk tilting defenses from the assault step in a pair.
9. Exercises for executing the trunk rotation defense from the combat stop in a single place. (Always executed at the command voice of the teacher at the clap).
10. Exercises for the execution of the trunk rotation defenses from the combat stop on the spot in pairs.
11. Exercises for the execution of the trunk rotation defenses from the pendulum movement without a partner. (Always executed at the teacher's command voice to the clap).
12. Exercises for the execution of the trunk rotation defenses from the pendulum movement in pairs
13. Exercises for the execution of the trunk rotation defenses from the step-in assault in the place without partner. (Always executed at the command voice of the teacher at the clap).
14. Exercises for the execution of the trunk rotation defenses from the assault step in the pair position.
15. Exercises for the execution of the trunk rotation defenses from the assault step with movements without a partner. (Always executed at the teacher's command voice to the clap).
16. Exercises for the execution of the trunk rotation defenses from the assault step with movements in pairs.



## **Methodological indications for the implementation of trunk defense**

1. All the exercises that are executed are directed by the teacher and are executed in the voice of the boxer's command or a clap.
2. These exercises must start to be worked from the simple to the complex, taking into account their complexity for a better understanding and assimilation by the athlete.
3. The exercises must be worked on in a logical order: first the leaning defenses and then the rotation defenses.
4. To give a better methodological treatment, the same exercises should be worked from the boxing school, the combat school, the apparatuses and in the shade.
5. The work must begin first on the spot, then from the pendulum movement, step in assault and finally from the step-in assault in displacements.
6. Work can be done in pairs or individually, but it is recommended that it is done mostly in pairs as this is a combat sport where there is a confrontation and it is one against the other.
7. These exercises can be worked on at all stages of training, taking into account the dosage of the exercises in terms of working time and repetitions.
8. Emphasize the correct execution of the exercises with the objective of stereotyping the movements.
9. The type of exercise to be carried out in the training units will remain at the trainer's disposal, although it must follow a logical order in execution.
10. These exercises should be worked on 3 to 4 times a week with the aim of seeking their development and assimilation.

As a conclusion, it is proposed that the set of exercises proposed for the improvement of the work of the trunk defences in the pioneer category, is outlined for the trainers in the training process; This goes from the correct formulation of the objectives, so that the skills to be developed are measurable, the frequency of work during the training sessions balancing them with the arm and blocking defences, the emphasis on the differentiated work with the athletes so that the execution of varied exercises that enhance the work in pairs and rows are personalized, eradicating each athlete's deficiencies, as well as the use of a frequency of three sessions for the appropriation of the technical skills.

The theoretical evaluation carried out by the experts confirmed that the set of exercises proposed in the three sessions planned in the micro training cycles favours the work with the trunk defence in the pioneer category boxers.

The results in the provincial pioneer competitions of the team, in this category, show significant results in obtaining bronze medals, silver medals and gold medals.



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