# The Effect of using the Training Tool Acrotramp On muscle strength and level Skill performance in artistic gymnastics"

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**Introduction and research problem**

It is considered Artistic gymnastics is one of the most important and primary sports, as it is characterized by the multiplicity and diversity of skills performed on the equipment. Differently The nature of performance on each apparatus has led to artistic gymnastics enjoying a large share of innovation in technical methods for movement performance, characterized by creativity and risk. Artistic gymnastics is an individual activity that contributes to the development and enhancement of physical and skill capabilities, as the individual relies on his or her own abilities to complete movement sequences.

Essam Abdel Khaleq (2003) states that specific tools and devices play an important role within the training process, as they help to clearly understand the training objective, help the trainer to save time and effort, and increase motivation and enthusiasm among the players (8:12).

Muhammad Shehata (2002) believes that the term “assisted means” refers to the tools and methods by which the player can be provided with sensory experiences and training situations (physical). -Kinetics-(Skill) to acquire a motor or skill duty to help facilitate performance (9:34).

Muhammad Othman (2003) points out that the training programs have taken on a form, structure, and organization that includes the new development in the devices and means used during the training process, the use of which has become a necessity for the physical, skill, and psychological rehabilitation of players. It has been proven by experience that their use leads to an increase in athletic levels (11: 153).

"Jenson and Schultz add, “Jensen Schultz (2007 AD) The training method for developing physical qualities should preferably be appropriate to the type of muscular work, in addition to the fact that the movements performed on devices and auxiliary tools have a positive effect on raising the level of skill performance. (84:23)

Muhammad Abd al-Salam (2003) points out that the auxiliary devices have an effective role, as they provide the player from the beginning with a clear motor imagination of the technical performance, without feeling bored, and also adding an element of suspense to training on the devices and tools used and acquiring the physical qualities, motor fitness and some

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psychological qualities necessary for performance (12:20).

Mukhtar Salem (2001) points out that there is now a huge number of diverse innovations and inventions that serve the various sports fields, which are the real reasons for the development and ease of the training process. It is also very easy to realize the importance of sports technology through a comprehensive and quick look at the sports, Olympic and international achievements, as the credit for that goes to the tremendous technological progress that was able to solve many problems and obstacles to provide ideal solutions to raise the level of sports performance. (13:11)

Artistic gymnastics depends on the elements of strength and muscular ability, as Walid Nabil (2005) proved that the gymnast needs a great deal of strength and muscular ability in all parts of the body. These elements appear in the movements of pushing the hands and legs in the movements of forward and backward somersaults and rotations on various gymnastic apparatus (15:27).

The player's ability to perform skills in a specific period of time is important, as the more work produced in a unit of time, the better the efficiency in skill performance (10:32).

This is what Blackie and Southard confirm. **Blakey**& Southard(2004) that the current trends of trainers are moving towards integration in training rather than individualism, for example, weight training is mixed with plyometric training within one training unit to obtain complex training, and the results of many scientific studies have proven the effectiveness of these mixed trainings in improving physical abilities and the level of performance, despite the ongoing controversy about which training we start with and which one we end with and the scientific explanation for starting with a specific type over others of these trainings (18:15).

Talha confirms **Hossam El-Din and others** (1997) That exercises that depend on the energy of elasticity and the work of reflex sensory receptors achieve the greatest benefit by reducing the time period between extension and shortening, as the energy stored in the muscles as a result of lengthening is released at rapid rates during the shortening contraction phase and participates in the first moments of Second. (74:4)

Gymnastics depends on developing the strength element of the upper and lower limbs in addition to the trunk muscles (abdomen and back), which is the final result of performing skills that start from the legs and pass through the trunk and are represented in the movements of flexion, extension, pronation, extension, pushing and pulling (10:67).

Given the difficulty of learning motor skills, many have pointed out that Studies and references (1), (4), (7), (17) The importance of using auxiliary means, tools and devices and the additional in Teaching gymnastics skills, especially in practical application, contributes to improving performance. Skills

The researchers believe that the use of tools and assistive devices helps

develop various aspects of physical fitness. Kinetic and psychological addition factor suspense Providing opportunities to progress to perform difficult skills successfully and quickly, and confirming the relationship between the learner and the legal gymnastics equipment, and developing the elements of physical fitness specific to gymnastics. Therefore, we find the importance of using a new device, which is the (Acrotramp) device. Actor ramp)Which may lead to developing the ability of male and female players to increase the flight period and optimal use of arm and leg movements during the ascent, which leads to safe landing and proper technical performance of the motor skill and helps in training on continuous, sequential repetitions of motor difficulties, including similar motor chains and different motor chains, which leads to developing physical and motor abilities and volitional characteristics related to courage and boldness among female players, and this results in saving time and effort.

Through the work of the researchers in gymnastics training, the researchers noticed a decrease in the level of performance of some special skills on the floor exercise apparatus. The reason was attributed to the decrease in the level of physical qualities, the most important of which is the element of strength and muscular ability, which may not be sufficient to complete these skills at the required level. This appears in the slow and the process of moving from the ascending position to the flying position, turning and landing due to weak muscle strength.

By reviewing studies related to the development of physical qualities, such as the study of supporter Ahmed (2008) (14) entitled "The effect of plyometric training on developing muscular endurance and gymnastics skills performance on the floor exercise apparatus for students of the Faculty of Physical Education in Port Said. "And also study Muhammad Ibrahim Al-Najjar (2004 AD) (16) entitled The effect of using the Acrotramp device on the performance level of gymnastic and acrobatic series on the floor exercise apparatus and the balance beam, according to the requirements of the International Gymnastics Code. All previous results have shown the effectiveness fondueing the plyometric muscle contraction method and using the training tool Acrotramp improving physical qualities (muscular strength + muscular ability) in various sports and the extent of its impact on the skill and numerical level, which is what prompted the researchers to conduct this study to identify the impact Use tool Training Acrotramp power Muscular And level Performance The skilled in gymnastics Technical

**Research objective**

The research aims to identify" impact Use tool Training Acrotramp power Muscular And level Performance The skilled in gymnastics Technical.

**Research hypotheses**

- There are statistically significant differences between the averages of the pre- and post-measurements at the

level of Some physical variables (muscle strength) For the benefit of dimensional measurement in gymnastics juniors.

- There is Differences same indication Statistics between Averages Measurements Tribalism And the dimension in level some Skill performance on the floor exercise machine For the benefit of Measurement The distant I have Junior gymnastics.

**Some terms used in the research:**

**Auxiliary device (Acrotramp):**

It is a system designed to support the technical level and high education, and it provides the players with a high push in the air, and it has an effective value as an auxiliary device in teaching and developing the difficulties of gymnastics and kinetic chains, especially on the apparatus. Ground movements and balance beam, and it has many benefits, including developing movement balance. And body control during movement in the air, and help in developing integration between the ability of rhythm and movement, the device is between the trampoline and the ground, and is always equipped for training systems approved or based on rebound, consists of an iron frame with a rubber band (Ny tramp) penetrates the linoleum carpet, connecting Toya Extending from the side, which works to bounce the whole body and covers the yet is covered with a layer of sponge and has seven transverse iron legs.(16)

**Plan and procedures Search:**

To achieve the objectives of research and testing Hypotheses The researchers followed the steps Next:

**Firstly: Methodology Search:**

use The researchers used the experimental method due to its suitability to the nature of the research using the experimental design. With a single experimental group system.

**secondly: Research community:**

The research community included artistic gymnastics juniors from the Ahl Matrouh Club in Matrouh Governorate for the 2023-2024 training year, at the age level under (11) years.

**Third: sample Search:**

It was completed Selecting the research sample by the intentional method Random artistic gymnastics juniors from AL Matrouh Cubits texture is (18) Junior From the original community, Eight (8) were selected Juniors from The research community and outside the original sample to calculate the scientific coefficients of the tests under investigation as well as to conduct exploratory studies for the research (10) youth were selected as a basic sample.

**Homogeneity of the research sample:**

The researchers verified the degree of normality of the distribution of the research sample members in light of the following variables: anthropometric measurements (age, height, weight), physical variables, and skill performance level in the gymnastics under study. Tables (1, 2, 3) illustrate this.

**Table (1)**
**Mean, standard deviation, median, and skewness coefficient of variables (Growth rates) under investigation (n =18)**

| M | Variables | | discrimination | Average | deviation | The mediator | twisting |
|---|---|---|---|---|---|---|---|
| 1 | growth rates | height | poison | 128.21 | 2.26 | 128.00 | 0.278 |
| 2 | | the weight | kg | 34.25 | 3.10 | 34.00 | 0.241 |
| 3 | | Age | year | 10.52 | 0.58 | 10.50 | 0.103 |

Table No. (1) indicates that the skewness coefficients for the variables of height, weight and age of the research sample individuals are limited to (±3) which shows that the vocabulary is moderately distributed.

**Table (2)**
**Mean, standard deviation, median, and skewness coefficient of the (physical) variables under study (n =18)**

| M | Variables | | discrimination | Average | deviation | The mediator | twisting |
|---|---|---|---|---|---|---|---|
| 4 | physical variables | leg muscle strength | kg | 63.44 | 1.02 | 63.40 | 0.117 |
| 5 | | Muscular strength of the leg muscles | meter | 2.05 | 0.11 | 2.00 | 1.363 |
| 6 | | Muscular strength of the back muscles | Number/second | 25.33 | 0.98 | 25.00 | 1,010 |
| 7 | | Muscle strength of the back muscles | kg | 61.48 | 0.94 | 61.0 | 1.531 |

Table No. (2) that the skewness coefficients of the variables Physical The research sample members are limited to (±3) which shows that the vocabulary is moderately distributed.

**Table (3)**
**Mean, standard deviation, median, and skewness for the (skill) variables under investigation (n =18)**

| M | Variables | discrimination | Average | deviation | The mediator | twisting |
|---|---|---|---|---|---|---|
| 9 | Handspring one leg | degree | 2.85 | 0.13 | 2.80 | 1.153 |
| | Handspring | degree | 2.44 | 0.18 | 2.40 | 0.514 |

Table No. (3) that the skewness coefficients of the variables Skill The research sample members are limited to (±3) which shows that the vocabulary is moderately distributed.

**Data collection tools:**

**Tools and equipment used in Search:**

- The researchers used tools and devices. Next:
- Data registration Form Juniors And results Tests. Attachment (5)
- Medical scale for measuring weighting kilograms.

- Rotameter for measuring length in centimeters
- Tools (artistic gymnastics hall)
- Devices (dynamometer-Manumit)

**Tests used In research:**

**A: Physical tests: Attachment (2)**

- dynamometer To measure the muscle strength of the legs and back.
- Long jump from standing to measure leg muscular strength.
- Supine trunk raise test to measure Muscular strength of the back muscles.

**B: Skill tests attached (3)**

- **Evaluation of the skill performance on the floor exercise equipment for my two skills (Handspring one-leg (Handspring**

The researchers used the jury method to measure the level of skill performance on special gymnastic devices, whether during the pre-measurement of the sample members or in the post-measurement of the movement sentences of the gymnastic devices. This was done by two committees (A),(b) From faculty members who hold gymnastics arbitration certificates, where the average of the two grades from the two committees is taken, and the grade includes (6) grades for the level of skill performance.

**Exploratory study of the research:**

The researchers conducted a survey study on the survey sample, numbering (8) youth, in order to ensure: - Ensure the validity of the devices and tools used.

- Ensuring the integrity, implementation and application of measurements, tests and related procedures in accordance with the conditions set for them

− Determine the time required for the measurement process, as well as the time required for each test individually, in order to determine the time required to implement the tests and measurements.

− Arranging the conduct of tests, their performance, and regulating the rest periods between them

− The suitability of the program to the primary research sample

**Scientific transactions used in the research honesty-**

**table (4)**

**The significance of the differences between the upper and lower quartiles in the level of some physical variables And level Skill performance in artistic gymnastics (n=8)**

| Variables | | Unit of measurement | Supreme Spring | | Lower spring | | T value |
|---|---|---|---|---|---|---|---|
| | | | S | A | S | A | |
| The level and the variables | leg muscle strength | kg | 65.32 | 0.98 | 58.65 | 0.84 | 3.20 |
| | Muscular strength of the leg muscles | meter | 2.18 | 0.21 | 1.58 | 0.24 | 3.26 |

**Follow table (4)**

**The significance of the differences between the upper and lower quartiles in the level of some physical variables And level Skill performance in artistic gymnastics (n=8)**

| Variables | | Unit of measurement | Supreme Spring | | Lower spring | | T value |
|---|---|---|---|---|---|---|---|
| | | | S | A | S | A | |
| | Muscular strength of the back muscles | Number/second | 27.69 | 0.52 | 21.25 | 0.19 | 3.21 |
| | Muscle strength of the back muscles | kg | 62.19 | 0.28 | 57.62 | 0.33 | 3.14 |
| | Handspring one leg | degree | 2.66 | 0.12 | 1.68 | 0.11 | 3.18 |
| | Handspring | degree | 2.45 | 0.25 | 1.66 | 0.64 | 3.18 |

The value of (t) at the significance level (0.05) = 1.860

It is clear from Table No. (4There are statistically significant differences between the average measurements of the research group for the upper and lower quartiles, as the calculated (t) value was greater than its tabular value in favor of the upper quartile, which indicates that the tests distinguish between the groups.

**stability:**

**table (5)**

**The significance of the differences between the first and second applications in the level of some physical variables and the level of performance Skill performance in artistic gymnastics (n=8)**

| Variables | | Unit of measurement | First application | | The second application | | Correlation coefficient |
|---|---|---|---|---|---|---|---|
| | | | S | A | S | A | |
| Physical variables and level The skilled | leg muscle strength | kg | 61.98 | 0.65 | 62.10 | 0.62 | 0.951 |
| | Muscular strength of the leg muscles | meter | 1.88 | 0.14 | 1.98 | 0.45 | 0.952 |
| | Muscular strength of the back muscles | Number/second | 24.47 | 0.21 | 25.10 | 0.42 | 0.974 |
| | Muscle strength of the back muscles | kg | 59.90 | 0.87 | 60.11 | 0.58 | 0.962 |
| | Handspring one leg | degree | 2.18 | 0.36 | 2.25 | 0.22 | 0.980 |
| | Handspring | degree | 2.15 | 0.21 | 2.33 | 0.17 | 0.947 |

The value of (r) at the significance level (0.05) = 0.632

Table (5) shows that all the values of the calculated correlation coefficients for the research variables are higher than the value of (r) and the

tabulation, which reached (0.951 to 0.980) Thanda significance level of (0.5%) indicates the reliability of the tests used in the research.

**Training program Suggested using the polarogram**

The researchers developed a program using the Acrotramp tool after a reference analysis of the references. Scientific (4) (5) (6) (18) Arabic and foreign and to view on Information network.

**Program design principles:**

- Providing the equipment and tools required to implement research procedures.
- Number of training units and time of each unit and time distribution for the training unit.
- Appropriate formation of training load components and gradual progression of program and training unit loads.
- Providing diversity and excitement in the activities and exercises used.
- Progression in performance from easy to difficult, and from simple to complex.
- Consider gradual increase in load intensity throughout the proposed program.
- Linking physical aspects And skill During the performance of the implementation content The program.

**Distribution of daily unit time in the training program Using the Acrotramp tool:**

The researchers divided the training unit time into three sections and distributed the content of the daily training unit, as well as forming the training load and distributing the training activities using the Acrotramp tool on the daily and weekly training units during the preparation period, as shown in Table (6).

**Table (6)**
**Time distribution for the three sections of the daily training modules for the Acrotramp training**

| M | Daily training unit parts | | Content | time |
|---|---|---|---|---|
| 1 | Primer | Warm-up | Administrative work | 5 min |
| | | | Body preparation | 15 min |
| 2 | Main | Acrotramp exercises | Ground exercises | 20min |
| | | physical training | Ground exercises | 45 min |
| 3 | Conclusion | Calming down | Calming and relaxation exercises | 5 min |
| | Total time | | | 90 min |

**Table (7)**
**Planning Program: Daily and weekly training during the program preparation period**

| Week number | today | Activity | Load intensity % | | Week number | today | Activity | Load intensity % | |
|---|---|---|---|---|---|---|---|---|---|
| | | | today | week | | | | today | week |
| the first | Saturday | Training Using the Acrotramp tool | 30% | 40% | Fifth | Saturday | Training with the Acrotramp | 65% | 70% |
| | Monday | | 40% | | | Monday | | 70% | |
| | Wednesday | | 50% | | | Wednesday | | 75% | |
| the second | Saturday | | 45% | 50% | Sixth | Saturday | | 65% | 70% |
| | Monday | | 50% | | | Monday | | 70% | |
| | Wednesday | | 55% | | | Wednesday | | 75% | |
| the third | Saturday | | 45% | 60% | Seventh | Saturday | | 75% | 80% |
| | Monday | | 50% | | | Monday | | 80% | |
| | Wednesday | | 55% | | | Wednesday | | 85% | |
| Fourth | Saturday | | 55% | 60% | The eighth | Saturday | | 80% | 80% |
| | Monday | | 60% | | | Monday | | 80% | |
| | Wednesday | | 65% | | | Wednesday | | 80% | |

After the researchers reviewed many references, research and previous studies in the field of training in general and artistic gymnastics As a matter of fact Private and building Based on the pre-measurement of the research sample, the researchers were able to reach the following:

- Total program time (8) eight weeks
- Unit time (90) minutes
- Number of training units per week (3) three units.
- Total number of units (24) twenty-four units the Training.
- Total program time = 90 * 24 = 2160 minutes

The researchers divided the implementation period into three stages.

- The general preparation phase took (12) units. As a first stage.
- The special preparation phase took (9) units. As a second stage
- Pre-competition stage (Practical exams) It took (3) units. As a third stage.

**Steps to take Experience:**

**Measurements Tribalism**:

He did The researchers conducted the pre-test measurements for the tests under study from the day10/1/2024to11/1/2024 Adin order following Anthropometric measurements followed by the measurement Physical fitness followed by skill per romance Performing a front flip on the floor exercise machine.

**application Program:**

The program has been implemented Training using the training polarogram in the period from13/1/2024 ADto6/3/2024 AD .

**Measurements Dimensionality**:

Dimensional measurements were carried out for all tests under investigation from the day9/3/2024 AD Up to 10/3/2024 AD simpered-measurement performance order

**Statistical method user:**

The data were prepared, tabulated and statistically analyzed, with the results extracted and

interpreted using the following statistical methods:
Arithmetic mean. -The mediator. Deviation Standard. Coefficient of torsion.
Significance of differences test "T"" Factor slink Significance of differences in a way.
Using the program "SPSS" for research data processing, The research concluded that All results are at the 0.05 significance level.

**Presentation and discussion of results**

**Table (8)**

**Significance of differences and improvement rates between measurement averages Tribalism in level Some physical variables In gymnastics (n=10)**

| Tests | Unit of measurement | Pre-measurement | | Dimensional measurement | | The difference between the two averages | improvement rate | value(t) The calculated | Significance level |
|---|---|---|---|---|---|---|---|---|---|
| | | S | ±A | S | ±A | | | | |
| leg muscle strength | kg | 63.54 | 0.25 | 72.32 | 0.52 | 8.78 | 12.14% | 4.98 | Dal |
| Muscular strength of the leg muscles | meter | 2.10 | 0.19 | 2.25 | 0.25 | 0.15 | 6.66% | 4.65 | Dal |
| Muscular strength of the back muscles | Number/second | 25.62 | 1.02 | 31.20 | 0.63 | 5.58 | 17.88% | 4.69 | Dal |
| Muscle strength of the back muscles | kg | 61.52 | 0.85 | 68.65 | 0.32 | 7.13 | 10.38% | 4.56 | Dal |

The value of (t) at the significance level (0.05) = 1.782

It is clear from the table (8There are statistically significant differences between the averages of the pre- and post-measurements in the physical variables standing favor of the dimensional measurement, the calculated value of (t) came greater From its tabular value at the significance level (0.05).

**Table (9)**

**Significance of differences and improvement rates between measurement averages Tribalism in level Skill performance in gymnastics (n=10)**

| Tests | Unit of measurement | Pre-measurement | | Dimensional measurement | | The difference between the two averages | improvement rate | value(t) The calculated | Significance level |
|---|---|---|---|---|---|---|---|---|---|
| | | S | ±A | S | ±A | | | | |
| Handspring one leg | degree | 2.90 | 0.14 | 5.10 | 0.11 | 2.20 | 43.13% | 4.78 | Dal |
| Handspring | degree | 2.44 | 0.18 | 4.98 | 0.12 | 2.54 | 51.00% | 3.68 | Dal |

The value of (t) at the significance level (0.05) = 1.782

It is clear from the table (9There are statistically significant differences between the averages of the pre- and post-test measurements. Skill performance and In favor of the dimensional measurement, the calculated value of (t) came greater From its tabular value at the significance level (0.05).

**Discussion of results:**

It is clear from Table (8) that there are statistically significant differences between the averages of the pre- and post-measurements in the physical variables tests in favor of the post-measurement, as the calculated (t) value was greater than its tabular value at the significance level (0.05).The researchers attribute this result to the use of training exercises using a training tool .Arco tramp under consideration.

The exercises are carried out using the polymetric or rebound method using auxiliary training devices. It is a set of exercises designed to develop muscular elastic strength through what is known as the lengthening and shortening cycle, which is a special method for developing explosive power. It depends on Moments of grappling and braking that occur as a result of the body's weight in its dynamic movement, such as the rebound jump. This training method helps develop muscular capacity and thus improves performance. Dynamic Movements. (98:6)(41:17)

Andy The researchers concluded that the exercises Using exercises Arco trump halest works on Occurrence extension no I want it Muscles provide the material for the joints, which generates involuntary muscle contraction that stimulates other sensory organs, thus increasing the number of motor units in the muscles working on these joints, which is necessary to increase muscle strength, as well as matching collision training with the form of performance..

And confirms that **Ahmed Al-Hadi Youssef (2010)(2)**Special exercises should be built to match. Its strength with the movements of competition and that strength exercises should focus on the dominant contraction movements of competition exercises in order to achieve special harmony with the requirements of performance.

Talha Hussam al-Din (1997) (4) and Adel Abdel Baser (2001) (5) confirm that: Strength training should meet individual needs and the most appropriate training for the muscles is to repeat the type of work for a number of times. that Skill required Which Properly strengthened, they are more resistant to injury.

The results of the study are consistent with both: **Mohamed Shehata** (2003) (9) The program includes a push-up program to develop the muscular strength of the legs and arms, a transitional speed program, and a contraction and extension program for the large joints, which helps in performing the skills of pronation, flexibility training, range of motion, and other special programs, as the benefit from these exercises varies according to the age group.

From the above, the first hypothesis is achieved, which states that: **There are statistically significant differences between the averages of the pre- and**

**post-measurements in the level of some physical variables (muscle strength) in favor of the post-measurement among gymnastics juniors."**

It is clear from the table (9There are statistically significant differences between the averages of the pre- and post-test measurements. Skill performance and In favor of the dimensional measurement, the calculated value of (t) came greater From its tabular value at the significance level (0.05) The researchers attribute this result to the use of Aqua Trump training.

In this regard, it is mentioned that Adel Abdel Baser (2001) (5) Gymnastics is an important and vital sport that requires advanced methods and techniques to learn it so that the level of performance of its players can be advanced, due to the multiplicity and difference of its equipment. Nits requirements and the nature of performance on each of them, and there is no doubt that the technical performance of any gymnastics skill It requires the development of physical qualities and skill capabilities, and many specialists in the field of sports have included it among the most prominent sports is characterized by technical performance, which is one of the main factors leading to victory. This requires discovering the most important details of the technical performance of its skills, knowing the characteristics and components of performance, which helps in quickly and easily improving the educational and training processes for the various skills.

It is agreed **Ahmed Al-Hadi Youssef** (2001)(1)Khairiya Al-Sakri, Muhammad Jaber Bariq (2009)(3)However, it is important The preparation program for gymnastics should begin from an early age, as this is the most appropriate stage for the development of special motor abilities, which must be prepared for at this stage so that they can be developed in the future, otherwise it will become difficult to acquire them later with the same efficiency. At this stage, the child is able to perform skills that are characterized by ease, fluidity, and the required coordination. In addition, he will be able to link the skills together, whether he learned them previously or currently. Therefore, the child's physical development at this stage enables the child to control the performance of motor skills accurately in the future.

The researchers paid attention to training .extension For muscles and joints flexibility so that the muscles and joints become on ready To perform Training Using the training tool The Acrotramp was performed efficiently without any injuries, as well as the training. Using the training polarogram to improve muscle strength trunk And the men, and this is clearly shown in the improvement physical variable sandy The researchers found that exercises using the Acrotramp training device led to a shortening of the time of muscle fiber contraction and improved coordination between the working muscles and the opposing muscles. When designing exercises using the Acrotramp training device, the researchers took into account

shortening the time the feet or arms touch the ground.

The results of this study are consistent with the study **Nasser Al-Sayed (2008) (14) "Dew Hamed(2008)(15)Heba Al-Najjar (2004 AD) (16)** That training Using the Acrotramp training tool It contributes to developing the muscular capacity of the arms and legs. And the legs, and this is what this study confirmed that the exercises Using a tool like Acrotramp Improved muscle strength And skillful performance on gymnastics equipment.

Thus, the second hypothesis has been fulfilled, which states that: **There are statistically significant differences between the averages of the pre- and post-measurements in the level of some skill performance on the floor exercise apparatus, in favor of the post-measurement among gymnastics juniors."**

**Conclusions**

- Following the use of exercises using the tool Acrotramp the level of physical qualities of artistic gymnastics juniors.
- Following the use of exercises Using the Acrotramp tool At the skill level Gymnastics juniors Technical.

**Recommendations**

- Use the suggested exercises Using the Acrotramp tool Because of its positive impact on improving physical and skill qualities in artistic gymnastics.
- Conduct similar studies on the impact of training. Using the Acrotramp tool On other gymnastic devices.
- Conducting training courses for artistic gymnastics coaches on the importance of using exercises. Using the Acrotramp tool.

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