

# EFFECT OF REHABILITATION PROGRAM ON THE RUPTURE OF CONNECTIVE MUSCLES OF THE LEVEL SIMPLE FOR ADVANCED FOOTBALLERS

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## ABSTRACT:

*The aim of the study was to use a rehabilitation program for the injury of hamstring muscles to the degree (simple) for the players of advanced football, and to identify the effect of the rehabilitation program for the rehabilitation of connective muscles through tests (gonometer, dynamometer, balance) in the members of the research sample, The experimental community is one of the most advanced players in the football season (2017-2018) and the five muscle-weight athletes. They were chosen in a deliberate manner by interviewing the coaches of clubs teams The league of elite football where it was agreed to join the players who suffer from the injury of ruptured muscles of the connective to the degree (simple) according to the diagnosis of injury during the period of the treatment in the specialized center for physiotherapy / Department of Sports Medicine, and used the researcher statistical means, standard deviation (T.test) And concluded that the rehabilitation program has a positive effect on the rehabilitation of the rupture of the connective muscles to the (minor) level, and recommended the adoption of the rehabilitation program proposed by the researcher in all rehabilitation centers and hospitals through the distribution of a booklet containing rehabilitation exercises, and the need to use M preventive exercises so as to minimize the occurrence of injuries.*

**Keywords:** *rehabilitation - connective muscles – footballers.*

## INTRODUCTION

As a result of the high effort and conditions of sports competition, many football players are exposed to sports injuries, which is an important part of modern sports medicine science, which has become a major role in the return of the injured athlete in a short period of time to exercise his activity after careful diagnosis of the injury and the use of appropriate methods and treatment And thus the economy in time and money and effort and reduce the losses that football players represent the national wealth of each country, "Therapeutic exercises aimed at improving the overall muscle performance of

the body and strengthen the muscles and bones, joints and ligaments, which are therapeutic movements based on the scientific and planned for It is described according to the condition of the injured in order to stimulate or restore the normal functions of the injured part or maintain the current status or increase efficiency, and interact with the body to rehabilitate the injured part and often choose the type of exercise and how to perform according to the goal of treatment in addition to the diagnosis of the situation and treatment requirements " 2010, 203). In addition, "these movements are specific to different conditions of disease, presented in a preventive and therapeutic manner, in order to restore the

functions of the body to normal state, and take into account the performance of the anatomical, functional, physiological and educational aspects of the injured" (Nada, 2000, 21) Injury of muscle sphincter injury D. Football players are common injuries, as they can occur in various sports and in the game of football in particular, and this injury if not diagnosed accurately and handled correctly and rehabilitation and development of physical capacity lost from injury, and can not return to the stadium sports the same Not only during exercise, but also in the exercise of his daily life, "the goal of rehabilitation is vital to the return of the injured part to normal by strengthening the joints and muscles and ligaments weakened by injury and this is through the best follow the Liquid and scientific methods adopted "(Shinto, 2015, 33)

It is clear that the importance of this research in dealing with the subject of the injury of ruptured muscles connective through a program of rehabilitation on the basis of the available possibilities that fit with the reality of Iraqi sports, the problem is the period between the diagnosis of injury and the duration of rehabilitation, as we note that many of the injured players The study aimed to develop a rehabilitation program for the injury of rupture of connective muscles to the degree (simple), and to identify the effect of the program for the rehabilitation of connective muscles through tests (gonometer, dynamometer, In the subjects of the study sample and hypothesized that there were statistically significant differences between the results of the pre - and post - test tests (gonometer, dynamometer, equilibrium) in the rehabilitation of the injury of hamstring muscles (simple) for players of elite league football clubs.

## **MATERIALS AND METHODS:**

### **Search community and sample:**

(2017-2018) and the five (5) players who were assigned to the club. They were chosen in a deliberate way by interviewing the coaches of the elite football teams. Injury during the period for treatment in the specialized center for physiotherapy / Department of Sports Medicine. After the results of ultrasound examination to determine the degree of rupture and report from the doctor.

### **Means of gathering information, tools and devices used in research:**

Dynamometer and American-origin device, Japanese sonar device, balance device (Challenge-Disk), German origin, Chinese DJ device, electronic stopwatch (2) 8), rubber mat for exercise performance (10), rubber ropes (40), number of (50), iron hall, iron tablets and weights.

### **Field research procedures:**

the exams:

Testing the angle of determining the connective muscles (Ronald, 2003,167) -

□ Procedures: The device uses the juniometer, which consists of arms linked from both ends of the presence of a disk divided into degrees (0-180) and there is an indicator on one of the arms and adhesive tape to stabilize the ends of the arms of the device, and lying on the back of the infected one of the arms of the device tape adhesive on the horizontal axis of the hip, The second arm is placed on the infected man, and the victim is then shunted to the side to record a corner that identifies the connective muscles.

□ Recording: The laboratory is given two attempts, and the angle is measured for the best attempt to note that the natural angle is (40) degrees.

- test the measurement of the strength of connective muscles (Klaus, 2004,225)

□ Test Steps: The dynamometer is used and the test is performed from the stand position. The indicator must be returned to zero before the start of use and the player must perform the measurement with maximum force.

□ Registration: The laboratory is given two attempts and the best is taken.

Leveling test (Challenge.Disk) (Yasser and Ahmed, 2015, 225) -

□ Objective of the test: measure the balance.

□ Gadgets: Challenge-Disc, Laptop.

□ Mode of Performance: The player stands on the Challenge-Disc and faces the computer. There are two circles at each level (3). The player must enter the small circle (green) inside the large circle by moving the disc (10) seconds and the rest of the balance between each stage (7). The second phase of the stage is the second phase of the stage. Second, Figure (1) shows how to stand on the device

□ Recording: The device gives the degree of overall stability and the degree of static equilibrium and the

degree of mobile equilibrium in addition to the degree of each stage of performance.

□ Number of attempts: One attempt is given to each player after experimental attempts to adapt to the test requirements, and the test time (4.54) minutes.



Figure (1) Method of standing on the balancing device

**Testing:**

The tests were carried out by the researchers (29/1/2018) at 4:00 pm, and the tests were carried out (20/3/2018), at 4.30 pm, and applied the rehabilitation program (5) units per week time (50) minutes per unit, the total (30) units for the duration of the program applied, the total time (1500) minutes and equal (25) hours.

**Statistical means**

The researchers used the statistical package (SPSS) to process the data (mean, standard, deviation, T.test) of the associated samples.

**RESULT AND DISCUSSION:**

Table (1) Central and deviation and tribal differences after the gonometer and dynamometer and equilibrium

)Sig(	)T(	E	P	S-P	P	S	the test	measruing unit	Variables	sequence
.004	5.92	6.67	14.91	-39.51	0.09	40.34	Tribal	Degree	Gunometer	1
					14.91	79.85	after me			
.003	6.28	4.53	10.13	-28.47	23.04	37.84	Tribal	Kg	Dynamometer	2
					22.46	66.31	after me			
.007	5.07	39.17	87.59	-198.68	34.16	247.15	Tribal	Degree	Score Balance	3
					64.41	445.83	after m			

The degree of freedom = 4 .... significant at (Sig) □ (0.05)

From the table (1), all the variables for this category were shown to be developed for the post-test, which is as follows in the variable of the goniometer (97.94%) and in the dynamometer variable (75.24%). In the variable (Score - Balance) has reached the rate of evolution (80.39%), and the researcher, on the other hand to the analysis that the ability of motor evolved more than physical capacity, if we consider flexibility and balance within the capabilities of motor, and strength is physical ability.

The researchers see through their knowledge that the strength of the muscle and its range of motor affect each other and that increasing the range of motor means that the muscle has improved in strength as well as increasing the strength of the muscle through the right exercises gain muscular range, which is proportional to the increase, Or that the improvement in the movements of balance comes through the improvement of muscle strength and extent, then there is a relationship between the mentioned, the rehabilitation curriculum subject to the contents of the exercises significantly affected the rehabilitation of the infected muscle through the results of tests developed. The larger locomotor range is a reflection of the extent of muscular healing, which is determined by the strength of the muscle groups existing in the movement and the development of a range that must be developed or rehabilitated in the event of injury (Mesbah et al-Tahir, 2010, 528). But it should be noted that the researcher used the method of static and moving in the units of rehabilitation and in fact the work that the beginning of the program subject to the fixed type by a larger proportion of the mobile and there is a scientific fact is that the constant training leads to a lack of muscle flexibility, To avoid this, the researcher did a lot of stretching, relaxation and correct training using a combination of fixed and mobile contractions. Flexibility is the ability of the muscles and tendons attached to it and the ligament surrounding the joints to expand in order to perform its movement in the full or wide range and flexibility to make a significant contribution to reduce the incidence of sports injuries and muscle ruptures and preventive work in general (Jubour and Qablan, 2012, 240). The muscular range achieved by the muscle did not come only by building its strength only when rehabilitated, but also through the use of muscle exercises for muscle, so exercise exercises are anti-hardening exercises where these exercises to extend

the muscles to the maximum extent possible and works on The fibers are lined together in parallel and dislocated from adhesions. The regular performance of these exercises has the ability to restore most of the muscle tissue to normal length over time. The researcher adds that the improvement of the motor range is not only due to exercise and strength exercises, Low degree of pain over time. The improvement of the motor range is also due to the removal of the pain caused by the injury at the end of the program, resulting in increased motor range and increased lengthening of the working muscles (Farkd, 2005, 96). The most important objectives of the basic sports training to protect the player from injury through training flexibility in high degrees and increase the strength of muscles and ligaments and tendons and provide safety component of performance and lack of warm-up good leads to many injuries and injuries rupture of the connective muscle (Jabali, 2000, 19). The following applies to the non-infected player and the method of protecting him from injury, which is the same principle taken by the researcher during the rehabilitation phase, which is important to follow these steps and with great caution because any error may aggravate the injury level is greater than the injury at the beginning. Flexibility and flexibility of muscles are very important during rehabilitation (Dina, 2017, 8). In terms of the effect of the exercises on the strength of the muscle, the researcher and based on the operational sources that the output of the force is large due to the large number of units of movement, and that the increase in the number of locomotives comes as a result of training or the development of exercises suitable to fit the muscle and this indicates that the exercises used in The rehabilitation program prepared by the researcher, which in turn increased the output of the muscle strength, led to an increase in the efficiency and number of units of movement. Consequently, the result was in favor of the post-test. The use of weights and resistances in the fixed and moving method is a training tool. The task in the development of muscle contraction, in the form of muscle hard, which is a force used to the effect of increasing resistances and weights if we know that many of the methods used this technique for its importance in the installation and guidance of muscle groups to serve the form of sport practiced by the player, and can not benefit from these exercises If you take the necessary time, it works on a slight increase in the size of the

muscle exposed to such exercises, and the player can feel the real value of these exercises by feeling the strength and performance of the motor that has become better than it was, especially if the doses are organized Tender It is possible to overcome all the problems and damage that may occur in the player and therefore the development of force is evident in them. Constant training during rehabilitation has a greater advantage in developing muscular strength than in mobile training (Zina, 2010, 15). However, in the case of permanent use of isometric training, especially in the one-time training (ie, neglect of balanced training), this negatively affects the motor characteristics of the muscle and therefore the researcher followed the balanced training through the use of the exercise in the training exercises, Muscle length and shortness, Isotonic muscle contraction The positive is very necessary when performing mathematical forms. It changes the length of the muscle fibers. This increases the muscle strength but less than the development of muscle contraction. Physical therapists should consider using either type of exercise (hard and moving) or combining a combination of both types of exercise in the rehabilitation of patients, preferably in advanced stages of rehabilitation (Georgios, 2012). In this way, the researcher translated his training towards the use of weights and resistors and included in the loading of the muscle. The use of gradation in the training of resistors and weights for the rehabilitation of the muscle led to positive results in the improvement of strength in different types of tension to them for the stages of contraction and expansion. "Weight training is one of the methods of preparing and configuring the player by using gradient resistors to increase the ability to produce or counteract strength. It involves the performance of weightlifting exercises in an attempt to make the individual stronger, more capable and effective, and to increase muscle size and improve motor performance, as well as changes in body components. Using maximum or minimum resistors "(Tiger, 2001, 172). Resistance training has the potential to improve muscular strength in healthy athletes in stages of rehabilitation and has been shown to improve musculoskeletal performance (Harries, 2012,6). The purpose of the motor performance is when the muscle is ready to resist rapid and sudden movements in different directions. Beginning of the program there were slow and cautious movements commensurate with the level of

pain shown by the muscle during the performance of some exercises, and the benefit of rehabilitation by the use of resistors leads to strengthening muscle strength to protect against future injury Or return after the completion of rehabilitation when the athlete returns to the requirements of performance or training, and the researcher took care of the gradient components pregnancy in terms of intensity and repetition and intervals of rest and the change in exercise, which is of great importance and has high privacy Both in training and rehabilitation. Research has shown that the muscular nervous system responds better when it is constantly stimulated and needs to be surprised to be forced to adapt. This means performing different types of exercise for a few days and changing the number of repetitions, intensity and exercises from other days (Jamal, 2012, 241) . The constant training in which the work is constant and the speed is static, it tends to force at the expense of speed, and the greater the amount of resistances used in training, the more positive the evolution of force at the expense of speed and vice versa in the case of reducing resistances and increase the speed of performance in the exercise, The mobile tensile technique has speed at the expense of force (Zuhair, 2015, 21). The training of static and moving resistors during periods of rehabilitation is successful to increase the strength of the musculoskeletal muscles over an 8-week period (Jensen, 2014). In terms of improving the results of the stability test, which is currently one of the important aspects in the knowledge of the impact of the rehabilitation curriculum in muscles injured athletes, it forces the muscle to perform different movements and instructions may not appear in other tests commensurate with the expected reactions and motor responses to develop the muscle in a situation commensurate with the movement performed . For many years, research has focused on issues related to balance tests for sport. In particular, static and dynamic nerve tests and task-oriented balancing tests have recently been used to assess positivistic stability under sport conditions. Although this assessment has shown sufficient reliability for repeated measurements, A problematic distinction for athletes with a higher level of balance. The different approaches have provided us with experience in balancing the performance of athletes. This has also contributed to a better understanding of the physiological mechanisms of parallel weakness After the exercise was served as the basis for designing balanced

training programs that can explore the results gained in the field of sports in clinical medicine and rehabilitation (Erika, 2011,127). That the muscles of the lower limb are of great importance in achieving the balance of the body and that any defect affects the loss of freedom of movement and therefore adversely affect the ability to balance, and therefore the researcher finds that the results of the best balance of the injured gives an important indication that the elastic joints, ligaments and tendons of the injured muscle became better Which led to an increased ability of the individual to perform stability tests better. The muscle injury significantly affected the balance in the sample of the study through the researcher observed in the performance of tribal tests for balance and the difficulty of performance and the difference In what he taught in the post-test. The balance is associated with some special injuries to the men's legs (Marsh.Dw, 2004, 566). The use of strength exercises used in the curriculum according to different means and types of fixed and moving led to increase the strength of the muscle in the stages of rehabilitation and that some situations have included the development of strength more than muscle and that all the memory has contributed to the strength of the muscle and muscles of the other man, failing in the strength of these parts leads to Increase the rate of infection. Limitations in the strength of the lower extremities and control of the position of the body in a balanced manner during the performance of sports movements have been associated with high risk in the occurrence of many types of injuries (Wang, 2006,821). The use of rubber bands gives great freedom to use the fixed and moving exercise. The first puts the muscle under the constant effect of exerting strength to the muscle commensurate with the level of injury, in addition to the exercises of constancy for a certain time and then the movement to the extent to which the stability of the situation, the second puts the muscle under the stages of tension and relaxation style The continuous movement and repetitions correspond to the status of the curriculum, and all that is to increase the strength of the muscle and this led to the improvement of the sample in the stability tests. One of the training methods assessed to determine their effects on balance is the training of resistors and rubber bands (Earl.JE, 2001,93). Other studies have shown that force training, such as resistors, straps and weights, must be mobile, fixed and designed on the lower extremities in proportion

to the level of their injuries, which significantly affect the improvement of motor balance in both fixed and moving types (Young, 2010,104). The results of the stability test when given an improvement mean that we have been able through the exercises to improve the areas of muscular weakness in terms of physical and mobility of the affected area. "The tests of muscle balance and identification of muscle weaknesses give a pointer to researchers to focus on areas of weakness and muscle imbalance to become stronger and thus advise scientists to focus the bulk of training on weak muscles and balance imbalances that cause muscle imbalance on both sides of the body" (Deeb, 2003 , 20). The defect caused by the injury to a particular party in the body of the athlete leads to imbalance in the overall balance even if the non-infected part has a high balance capacity and over time and the aggravation of the injury affects the imbalance of the party is also healthy, so it is necessary to use the rehabilitation programs for the injured part to return the athlete and as soon as Prior to injury, the longer the injury, the athlete becomes vulnerable to loss of physical and motor abilities of his body as a whole. The current variables of balance and improvement in fact attributed to the researcher to improve muscle strength and rehabilitation, which decreased pain and reflected the improvement in the ranges of movement. Training the strength of the thigh muscles increases the balance of the injured and stabilizes the lower limb (Styliani, 2013,590).

#### CONCLUSIONS:

The rehabilitation curriculum has a positive effect on the rehabilitation of the musculoskeletal rupture (simple), and the need to target the muscles surrounding the affected muscle, as this leads to attacking the infected muscle from several directions so that its work (stabilized, opposite, support, main) Muscle mass and muscle imbalance, and significantly reduced pain when using rehabilitation exercises in water, and recommended the adoption of the rehabilitation program proposed by the researcher in all rehabilitation centers and hospitals, and the need to pay attention to strength training for muscle groups Especially the weak or small muscles, and the need to pay attention to sports injuries when they occur in terms of accurate diagnosis and taking treatment and commitment to the time required

for rehabilitation before returning to the stadiums to avoid repetition of the injury and the need to use preventive exercises to reduce the incidence of injuries and the need to give instant comfort to the player when feeling Pain in the training or games to avoid the occurrence of muscle rupture, and the need to pay attention to the warm up before exercise or games, and the need to have a protocol adopted in the rehabilitation centers includes codes for rehabilitation curricula for all injuries.

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