

## THERAPEUTIC EXERCISES USING A (SHORT WAVE) DEVICE TO REHABILITATE THE TREATMENT OF INFLAMMATION AND INCREASE THE MOTOR RANGE FOR THOSE WITH ARTICULATION OF SHOULDER AGES (35-40) YEARS

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**ABSTRACT:** The introduction and the Significance of research lies in Therapeutic exercises using a (Short Wave) device to rehabilitate the treatment of inflammation and increase the motor range for those with articulation of shoulder ages (35-40) years, as it is one of the basic natural means in the field of integrated treatment of injuries. The researcher also addressed the research problem in the lack of interest in therapeutic exercises, especially for those with articulation of shoulder, as well as the spread of drug therapy without scientific Basis, which have been and still suffer from our societies until now. The researcher used the experimental approach to its relevance to the nature of the research problem and its objectives, and the components of the research was applied to the number of the research sample is 8 of injured people. The results were presented and discussed, the researcher reached to several conclusions, the most important of which was the treatment exercises in the rehabilitation of shoulder articulation of injury. The most important recommendations recommended by the researcher to use these therapeutic exercises in rehabilitation of injuries among members of the research sample, as well as to enhance the experience of using the method of therapeutic exercises among trainers of sports events by holding courses to develop the role of rehabilitation and benefit from it and the extent of its reflection after rehabilitation from injury.

**KEYWORDS:** Articulation of shoulder, Rehabilitation, Treatment methods

### INTRODUCCIÓN

The rehabilitation process is a vital issue to return to the normal position to strengthen the joints and muscles that have weakened, and the treatment of injuries depends to also include treatment of the resulting stiffness in the joints and weakness and muscle atrophy. Based on the previous research, movement therapy and therapeutic exercises by a (Short Wave) device is one of the means in the field of motor rehabilitation, as it is considered important to restore the affected individual to his normal state. The process of motor rehabilitation depends on different therapeutic exercises of all kinds according to several characteristics, i.e. it must be known that the goal of motor therapy is Restoring the basic functions of the injured person's body, especially the affected organ, especially The articulation of shoulder, in addition, the motor program should include exercises that help the nervous system to react to different parts of the body.

Hence, we find that the exercises covered by the program must achieve the goal set for it which is (evaluation and improvement of the injured parts in general) as the exercises and the program improve the motor performance of the injured parts and increase the control of the muscles and extremities and that the exercises covered by the program are appropriate to the age, body style and capabilities Physicality, and to take into

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account the performance of the injured to the content of the self-rehabilitation program whenever possible in order to achieve the best results and help in that regard the gradualization in the content of the program from easy to difficult and consistent with the capabilities of the injured. Therefore, the (Short Wave) device is one of the most widespread and used in physiotherapy to treat various injuries to the human body and is symbolized by the letters S.W and is used for thermal treatments as it emits deep heat and the device has properties that have A localized effect transmitted by a high-frequency electric field dependent on the type of electrodes used, There are types of short waves, including continuous short waves used in the treatment of chronic conditions and have an effect to expand blood vessels and increase the flexibility of muscles and tissues and help in the process of food metabolism, Short wave therapy is used in severe disease because it relieves pain and stimulates blood circulation to rebuild tissues and treat infections. It has types (bipolar disc, bipolar rubber, unipolar).

### Research Problem

Through the experience of the researcher in the field of injury rehabilitation, I noticed the high incidence of injury at this age stage, especially in the articulation of shoulder, and when the injury occurs and neglects its treatment and leads to problems in the movement of the joint and limits their abilities in the work of the joint, which leads to a state of imbalance. Through our review of the research problem, we find that there is a close correlation between curative exercises and methods of rehabilitating sports injuries and the importance of the topic and seeking to find a solution to this problem,

In the current study, therapeutic exercises have been considered for the using of a (Short Wave) device and developing a therapeutic rehabilitation approach that includes the use of a (Short Wave) device to increase the range of motion of the articulation of shoulder as well as its effect in rehabilitating those with articulation of shoulder injuries to return quickly to the health status, since the articulation of shoulder is the primary axis of the Movement axes as it corresponds to the three ligaments of muscle fibers, including moving the arm away from the body, The disposal of the posterior fibers extends and spins the sides of the arm by pulling the humerus towards the backbone of the shoulder, Thus, the extension and lateral rotation move the arm back.

### Research objectives

- 1- Preparing therapeutic exercises using a (Short Wave) device to qualify for the treatment of inflammation and increasing the motor range for those with articulation of shoulder.
- 2- To Identify the effect of exercises used in the rehabilitation of inflammatory therapy and increase the range of movement of those with articulation of shoulder.

### Research Methodology

One of the things to consider in the field of research is the selection of the sample that represents a real representation of the research community, as it is "the part that represents the community of origin, or the model that the researcher conducts as a whole and the focus of his work on it." (Ghadban, 2004, P.84)(sharaf et al 2020).

The researcher used the experimental method with the experimental design (the one group with pre and post testing) to suit his nature of the problem, and the research community was chosen in an intentional way, and the number (8) with preferred shoulder inflammation.

As for the tools and devices used in the research:

In order to collect information and access to correct scientific facts, the researcher used tools, devices and some scientific methods that enable him to obtain information and data.

- **Research Tools:**
  - Arabic and foreign sources and references
  - Data registration forms.
  - Tape measure.
- **Devices:**
  - A device for measuring height and weight.

**Table 1.** Arithmetic circles, standard deviations and significance of differences in the results of pre- and post-test in the kinetic range test

Significance	sig	Deviation of the differences	Average differences	post-test		pre-test		Tests	
				±A	S	±A	S		
moral	,000	1.06066	.37500	.99103	179.8750	.53452	120.5000	Front flexion	Kinetic range(degrees) dimensions out
moral	,000	1.50594	.53243	1.38873	29.7500	.64087	18.1250	Horizontal	

Sig) (moral ≤ 0,05 At freedom (7).

- Electronic calculator.
- Stopwatch.
- Short Wave Device.

The researcher chose the following test:

The angle is measured from the position of the sitting relative to the injured, as one of the two legs of the goniometer is fixed on the lateral side of the trunk and the other end is on the medial side of the humerus and when the direction of the illusion is towards the top, Requiring the injured to raise the arm forward relative to the front flexion selection, But when measuring the angle of the horizontal dimensions of the exterior with respect to the injured and the injured arm is extended at an angle of 90 in front of the body, the goniometer is fixed in observance of the entire bone, Where the first arm of the goniometer is fixed in front of the body and the second arm is moved with the movement of the arm with its dimensions horizontally backward (Al-Alam, 1998, page 82).

#### Therapeutic exercises using (Short Wave):

After reviewing many studies, research and references related to the topic of research and reviewing the methods of physical therapy and rehabilitation used in treatment centers,

A qualifying curriculum has been prepared with the aim of treating inflammation and increasing the motor range for those with **articulation of shoulder**, achieving a balance between them and lengthening the ligaments connected to the joint, which leads to an increase in the motor range. The curriculum consists of eight weeks by (18) rehabilitation units and is applied in (2) units per week, which is (Sunday - Thursday). The qualifying unit's time ranges between (30-40) minutes, of which (10) minutes is for the warm-up and preparation to perform the rehabilitation unit.

It includes the qualifying unit of several methods and according to the order during performance, namely:

- 1- The use of some qualifying methods with physical devices, as follows:

A- Use the Short Wave device for (5-10) minutes.

- 2- **Rehabilitation exercises**

The curriculum included exercises to increase the range of the joint and resistance exercises with the presence of repetition and with different stresses and between rest periods between exercises between the work of the device. The researcher has observed the principle of gradual giving of exercises from easy to difficult because the repetitions start from (4 repetitions) in the first week to reach (10 repetitions) in the eighth week, The therapeutic exercises also included a group of exercises to strengthen the muscles of the articulation of shoulder, which included exercises to raise, lower and rotate the arm. These exercises are given after the Short Wave device.

#### Results and Discussion

Through Table (1), it becomes clear that there are significant differences between pre-test and post-tests, through the results, and there is a clear development for the members of the research sample. The researcher attributes the reason for this to the effect of the therapeutic exercises used and the various exercises in the exercise units. As the differences were significant and in favor of the post tests, which indicates that these exercises are scientifically valid and safe to use.

This indicates that the therapeutic exercises achieved the goal of reducing joint definition and worked to return the kinetic range of the joint close to the normal limit.

**Table 1.** Arithmetic circles, standard deviations and significance of differences in the results of pre- and post-test in the kinetic range test

Sig)(moral ≤ 0,05 At freedom (7).

This remarkable increase in the degree of movement of the joint is the result of an increase in the joint flexibility and muscle strength and an increase in the range of motion and freedom of movement, which indicates the effectiveness

of flexibility and strength exercises and rubber exercises of the muscles working on the joint where the shoulder joint is from the joints that work in various directions and that any injury to the ligaments or tendons The joint will thus lead to a significant decrease in the mobility of the joint, determined by the movement of the joint as a result of the injury, and the return of the joint to its normal function is an indication that the therapeutic exercises and the therapeutic program that it contains exercises to strengthen the muscles working on the joint from exercises of constant and moving strength as well as completely Rene, the positive and negative flexibility used in the treatment program, has an effective effect on returning joint mobility to the normal range of motion of the articulation of shoulder (Abdullah, 2017, page 151). As for the (Short Wave) device, these waves from the device caused an increase in the temperature of the part to be treated, and this rise worked on the expansion of the blood vessels, which increased the efficiency of the blood circulation, thereby helping to improve the health of the articulation of shoulder, and as a result of improving blood circulation, less infections occurred in addition To that, short waves worked to reduce pain due to the direct effects of heat on the sensory nerves, and also worked to increase the elasticity of the soft tissues, such as tendons, muscles and ligaments, and reduce stiffness in the joints and led to the Diastole of the contracted muscles. This is confirmed by both (El dien, 1999, page 96), as therapeutic exercises improve and develop and increase the activation of the cells of the immune system and it is a strong defense line to prevent infections, when activating the complementary immune system, the efficiency of this protein increases by destroying foreign bodies (

In addition to that the therapeutic exercises lead to an increase in immune responses after performing the exercises, and this is what he mentioned (Camus et. Al, 1994), as the muscle tissue in the bloodstream increases and thus the effectiveness of the white blood cells WBC to remove them from the bloodstream (Camus, Deby - Dupont, Duchateau , Deby, and Pincemail, 1994, p. 610). This was confirmed by Cuzzolin et al. (2000), that regular training leads to reduced adhesion between cells so that they can pass into shattered tissues, especially skeletal muscles, thus increasing their effectiveness (Cuzzolin, et al., 2000, page 293).

#### Conclusion

- 1- For therapeutic exercises using (Short Wave), which are used and based on scientific principles, have helped to increase the range of motion of the affected joint.
- 2- Resistance exercises in accordance with the correct scientific method have a major impact in maintaining the kinetic range of the shoulder joint.
- 3- Rehabilitation after an injury is very important, it helps them return to their normal health condition as soon as possible and at a level close to their level before the injury.

Through the findings, the researcher recommends the following:

- 1- Adopting therapeutic exercises in a specialized manner with various means to rehabilitate the affected articulation of shoulder.
- 2- Emphasizing the necessity of using (Short Wave) because of its positive effects from make recovery to injury.
- 3- Sensitize those with injuries to undergo a rehabilitation program after the injury, as it helps them return quickly to maintain the required fitness and normal motor range.

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