

Effect of fascia in rehabilitation and healing the muscles behind the thigh for football players

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Abstract: Fascia is a term that is gaining more attention in the sport medicine field for being a major contributor to soft tissue injuries and pain. Fascia is not easily seen on MRI scans, X-rays or ultrasounds, which is why it has often been overlooked when treating injuries. Fascia plays a significant role in many people with longstanding injuries. Common examples include low back pain, rotator cuff injuries, tennis elbow, shin splints and frozen shoulder.

Methods: The sample were chosen according to the specifications (8) subject of the football team under (20) (4) subject with back muscle strain and 4 have a shortening in the length of the hind muscle

Obegective: The aim of the research is to identify the impact of the new therapeutic tool, the Garston, in rehabilitation and recovery, and the extent of recovery and high level of players. rapid of disappearance of pain, Restoring the motor range, restore muscle strength, Restoring and increasing the length of the hind muscle, Restore the speed of transition

RESULTS: The rapid of pain disappears. Restoring muscular range of motion and strength restoration and increases the length of the hind muscle. Restore the transition speed

useing a new treatment tool Garston has a good effect in solving the twisted fibers or adhering to certain movements, reducing pain, This treatment is suitable for acute and chronic pains recovery where the tissues return to their natural characteristics and their use in rehabilitation and hospitalization has achieved good results in restoring the players of the ball back muscle efficiency in addition to the level rise to more than 120% .

Recommendation: Using the Gastron therapeutic tool for its good effect in alleviating the pain and thus increasing the ease of movement healing and rehabilitation of sports injuries

Keywords: Fascia, soft tissue, injuries, pain, flexibility, stretching exercises, Garston, range of motion

Introduction

In recent years, there has been a growing interest in physical activity and exercise not only for competition and championship, but for improving the level of efficiency , physical performance, increasing production, enjoying life and	negative effects and health damage resulting from scientific and technological progress and the associated diseases of lack of movement, so the encouragement of individuals to practic sports activities on a daily basis has become an urgent in recent years practic sports activities
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<p>adjusting the individual's lifestyle to better performance. To cope with the</p> <p>Robert Schleip2015 human body must be considered as a functional unit, where every area is in communication with another through the fascial continuum, consequently originating perfect tensegrative equilibrium. Medical literature does not suggest a sole definition of fascia Because it varies in terms of thickness, function, composition, and direction depending on its location .The fascial tissue is equally distributed throughout the entire body, enveloping, interacting with, and permeating blood vessels, nerves, viscera, meninges, bones, and muscles, creating various layers at different depths, and forming a tridimensional metabolic and mechanical matrix. The fascia becomes an organ that can affect an individual's health.</p> <p>Fascial is all the collagen and fibroblasts, which are part of a network that extends throughout the body. fascial surround all muscles, organs, and structures, work on the whole body. These fibroblasts surround not only muscles, but also muscle fibers. They also encapsulate their fiber bundles and all muscle fibers. As these tissues determine our external forms, allowing us to perform various movements with ease, while allowing the freedom of movement joints in all directions and angles and there is a variety of receptors of expansion linked to the muscular system, which is important in the perception of the body among athletes and 90% of Muscle injuries are muscular because muscle is the main tool for physical performance requirements and a major component of the human motor system. Acute muscle and tendon injuries make up 50% of the total injuries of athletes. Back muscle injury due to overload is due to muscle contraction. Wii is fast and also does not warm up well or</p>	<p>on a daily basis has become an urgent</p> <p>Fascia can be a great source of nutrition and regeneration of tissue, but if this flow is restricted it is a major source of pain. The relationship between the membrane and the muscle is important because fiber owes its importance and produces a barrier that gives the ability of muscles to slide between all surrounding parts, and it gives nutrition to all parts of the body. (36)</p> <p>Fascia in Sport and Movement is divided into two well laid out sections. The first section discusses the research and theories of fascia as they pertain to force transmission, biochemistry, elastic storage, recoil dynamics, stretching, etc. The second section addresses the clinical applications of fascia training. This section is broad and covers numerous movement practices, assessment technologies and manual techniques. The book does an exceptional job fitting fascial training principles into already established movement practices such as Pilates, Gyrotonics and martial arts. Though the book fails to apply fascial training principles and methods to a large number of mainstream sports, it is something the authors may consider expanding upon in future editions. (33)</p> <p>It has been proofed that this all-surrounding and all-connecting net throughout the body means a lot for the fitness and health of every sportsman, professional or not. A well-trained and well-integrated fascial net optimizes peak forces, as well as the coordination of detailed movements. It is not the joint receptors giving information about how the body behaves kinesthetically but the many receptors located in the fascia. That means not the skin is our biggest sensory organ but the fascia. With fascial training you can push your limits of performance. Some sportsmen say: "Today I've been able to give 110% of my capacity". Fascial-trained sportsmen will answer: "I could</p>
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<p>have a lack of flexibility and fatigue. (8)</p> <p>Graston Technique is one of the common soft tissue mobilization techniques and is categorized as an Instrument-Assisted Soft Tissue Mobilization (IASTM). It treats a variety of soft tissue injuries, such as sprains, strains, and general dysfunction of soft tissues. Some clinicians have had good results by using this technique, and have found the Graston Techniqueto heal soft tissue problems and injuries. Therefore, the Graston technique has been used in the medical field lately, especially as a rehabilitative process. The effects of the Graston Technique have been researched</p> <p>researched on various types of injuries. However, there are still some unclear topics, such as improvement on range of motion (ROM)</p> <p>When a clinician manipulates soft tissues with instruments, which helps the recovery of soft tissue injuries and dysfunctions. General soft tissue injuries treated by the Graston Technique include sprains, strains, and tendinitis.1 Rehabilitation and treatment are necessary to improve ROM after these injuries and to return to physical activities from injuries. Range of motion is one important factor in performing physical activities and sports. Range of motion can be defined as how much a joint moves two types of ROM include active range of motion (AROM) and passive range of motion (PROM). Active range of motion is how much a person can move his/her limb by him/herself. Passive range of motion is how much a clinician can move a patient's limb. Active range of motion is often used to measure rehabilitative progress, and PROM is not only used as a method for assessing ROM, but also to improve ROM, such as a partner stretch. (40)</p> <p>Graston Technique consists of five phases: warm-up (heat), passive stretching, strengthening, and cryotherapy. Each phase has different effects on the practice of preparing a football player at a high level</p>	<p>give 140% and had lots of fun with it. (5)(20)</p> <p>Physical activity depends on basic factors, including the availability of motor and physical characteristics and some physical measurements. The development of physical and motor qualities is necessary to legalize skills the basic mobility of physical activity Practitioner although the studies and research of physical specifications and physical elements of football players, but did not find the modern tools used in hospitalization and rehabilitation (37)</p> <p>Anatomy</p> <p>Fascia is internal connective tissue that wraps around organs, providing support and holding parts together. It has the appearance of a very thin spider web, connecting layers of muscle and surrounding all internal body tissues. Findely 2011 asserts that fluid flow in fascia is very important. Interstitial flow in soft tissue is mainly influenced by blood flow. The pressure gradient is strongly influenced by movements of the skeleton, organ movement, respiration and arterial pulsation. Increased fluid flow increases the production of collagen. The properties of the connective tissue surrounding muscles and organs is constantly changing. There is much complexity in the fluid. This is important to manual therapists. Fascia helps to regulate fluid flow. It is not a passive filter. By affecting the fascia, the flow of fluid is affected. By releasing tension in fascia, contraction is released and flow is increased. Much still needs to be learned about the biochemistry and mechanisms involved in fascia. Myofascial release appears to be a useful adjunct to manual osteopathic therapies, but the science and mechanisms behind its effectiveness need to be better understood in order for treatments to improve. (24)</p> <p>Findely 2011 point out that Fascia is composed of three layers an outer superficial layer, a middle layer, and a deep inner layer. As previously stated, the connective tissue</p>
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<p>requires effort and effort, and it is very expensive.(40)</p> <p>connective tissue that encases and connects all muscles and organs in the body, providing lubrication and support. There is continuity in this fascial envelope from head to toe. It has been likened to yarn in a sweater or a spider's web. Anatomical displays tend to show the bones, muscles, nerves and veins, but leave out the fascia that connects them. If left intact this would allow people to see the full picture, shedding light on these fascial connections. Fascia is made up of layers of collagen. It surrounds and holds together all parts of the body. It allows for movement and connectivity between parts of the body and plays a big part in ensuring our structural health and range of motion.</p> <p>(14)Stimulation of connective tissue provides an increased volume of the fluid filled slide bearings.</p> <p>Most sensory receptors are located in the superficial connective tissue and it explains why many manual superficial therapies hurt. It also explains the nonspecific pain that can occur in large areas, and which can be released during effective treatment .of connective tissue</p> <p>It seems that vibration therapy can release locked nerve signals that cause muscles and occur in large areas, and which can be released during effective treatment of connective tissue.</p> <p>It seems that vibration therapy can release locked nerve signals that cause muscles and connective tissue to keep a constant state of contraction.</p> <p>Muscles that have been in convulsions for a long time can quickly regain their normal muscle tone from vibration therapy that affects the receptors in the connective .tissue and muscle spindles</p>	<p>contains up to six times more nerve endings and is very important for the body's functioning in general. If the fascia has decreased function, that disrupts the nervous system as well, a negative spiral is initiated</p> <p>Methods</p> <p>During period from 25/7/2017 to 12/8/2017, the study were applied 8 subject of the study by choosing a measurement (pre – follow up - post) in two groups included (8) of the football team under 20 years of the first degree and registered in the Egyptian Football Federation divided into two groups. They have a shortening in the length of the hind muscle and the second group consists of (4) Players with a back muscle strain.</p> <p>And physiotherapy Sample was chosen in accordance with Medical diagnosis</p> <p>Personal And to ask questions to know the history of patients with a stress in the back muscle and to make sure that the injury occurs for the first time and know the symptoms felt by the patient and whether appeared in the circumstances of daily life or the result of an accident, or during the performance of sports, and the level of pain felt. Define the length of the hind muscle and measure the speed of the .players</p> <p>Check the device settings to measure the validity of the tools used with time for each .subject</p> <p>Measurement</p> <p>Pain Visual Analogous Scale (v.a.s)</p> <p>Measuring the joint and elasticity flexibility through the flexometer</p> <p>Measure the length of the hind muscle</p> <p>Measure the superpower through the dynamometer</p> <p>Measurement of height and weight</p> <p>Pulse measurement index</p> <p>The duration of the program (4 weeks) for each, subject separately (3 units) per week</p>
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results

Table (1)

**Arithmetic averages, standard deviations, mean and spacing of variables
 (Age -height -weight) in the two research groups)**

variation	mean	sd	median	Coefficient
Age	19.375	0.517	19.00	0.644
Height	180.875	3.440	181.500	- 0.701
Weight	87.750	7.851	91.00	0.801
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Torsion coefficients in the variables under study in the two groups of research were limited to (± 3) which indicates the moderation of the data in these variables.

Table (2)

**Arithmetical averages, standard deviations, mean and spacing of
 the variables in question For the two groups in tribal measurements**

variation	mean	sd	median	Coefficient
Speed 50	6.226	0.120	6.210	0.268
Length of the muscle	21.250	2.474	21.00	0.263
Strength of muscle	80.075	0.597	7.950	0.315-
Flexibility	7.775	0.745	7.650	0.315
Pain	6.875	0.700	7.00	0.277

It is clear from the previous table (2) that all the values of the arithmetic averages exceed the values of the standard deviations, and that all the torsion values are limited to +3 and 3 indicating homogeneity of the sample and free from irregular distribution defects

Parity

Table (3)

Significance of differences between the first experimental group and the second experimental group in pre measurements

For the variables (age, height, weight) in the Man - Whitney method

variable s	group	Average group	Total grade	u	z	Probability of error
Age	Expremental 1 (n=4)	5.00	20.00	6.00	0.683-	0.495
	Expremental 2 (n=4)	4.00	16.00			
height	Expremental 1 (n=7)	4.50	18.00	8.00	0.00	1.00
	control 2 (n=7)	4.50	18.00			
weight	Expremental 1 (n=7)	4.88	19.50	6.500	-0.436	0.663
	control 2 (n=7)	4.13	16.50			

Table (3) shows that there is no statistically significant difference between the two groups in all - variables (age - height - weight) indicating the equivalence of the two groups in these variables.

Table (4)

Significance of differences between the first and second experimental group in pre measurements

variables	group	Average group	Total grade	u	z	Probability of error p
Speed 50	Expremental 1 (n=4)	4.00	16.00	6.00	0.581	0.561
	Expremental 2 (n=4)	5.00	20.00			
Length of the muscle	Expremental 1 (n=4)	3.75	15.00	5.00	0.877	0.381
	control 2 (n=4)	5.25	21.00			
Strength of	Expremental 1 (n=4)	4.63	18.50	7.500	0.145	0.885

muscle	control 2 (n=4)	4.38	17.50			
Flexibility	Expremental 1 (n=4)	4.50	18.00	8.00	0.00	1.000
	control 2 (n=4)	4.50	18.00			
Pain	Expremental 1 (n=4)	4.13	16.50	6.500	0.458	0.647
	control 2 (n=4)	4.88	19.50			

Table (4) shows no statistically significant differences between the two groups in all variables (velocity 50 m - muscle length - muscle strength - elasticity - pain), indicating the equivalence of the two groups in these variables

Table (5)

The significance of the differences between the first experimental and second experimental group in the post measurements of the variables in question in Man - Watten

variables	group	Average group	Total grade	u	z	Probability of error p
Speed 50	Expremental 1 (n=4)	3.00	12.00	2.00	1.732	0.083
	Expremental 2 (n=4)	6.00	24.00			
Length of the muscle	Expremental 1 (n=4)	3.63	14.50	4.500	1.016	0.309
	Expremental 2 (n=4)	5.38	21.50			
Strength of muscle	Expremental 1 (n=4)	5.50	22.00	4.00	1.155	0.248
	Expremental 2 (n=4)	3.50	14.00			
Flexibility	Expremental 1 (n=4)	4.50	18.00	8.00	0.000	1.000
	Expremental 2 (n=4)	4.50	18.00			
Pain	Expremental 1 (n=4)	3.00	12.00	2.00	2.000	0.046
	Expremental 2 (n=4)	6.00	24.00			

Table (5) shows that there is no statistically significant differences between the two research groups in all the variables under study except the pain variable, which indicates the equivalence of the two groups in these variables .

Table (6)
The significance of the differences between the pre and post measurements
For the first experimental group in the Wixson method (N = 4)

variables	measeurement	Average group	direction	grade	Total grade	z	Probability of error p
Speed 50	pre	2.50	-	12.00	10.00	1.826	0.068
	post	0.00	+	24.00	0.00		
Length of the muscle	pre	2.50	-	14.50	10.00	1.841	0.066
	post	0.00	+	21.50	0.00		
Strength of muscle	pre	0.00	-	22.00	0.00	1.826	0.068
	post	2.50	+	14.00	10.00		
Flexibility	pre	0.00	-	18.00	0.00	1.826	0.068
	post	2.50	+	18.00	10.00		
Pain	pre	2.50	-	12.00	10.00	2.000	0.046
	post	0.00	+	24.00	0.00		

Table (6) shows that there are no statistically significant differences between the two research groups in all the variables under study except the pain variable, which indicates the equality of the two groups in these variables. It is clear from the table that there are no statistically significant differences between the two groups in all variables (speed 50 m - muscle length - muscle strength - elasticity) except the pain variable,

Table (7)
Percentage of change between the mean and the remote measurements in the
For the initial experimental group. (N = 4) variables under consideration

variables	Average pre measurement	Average post measurement	Percentage change
Speed 50	6.217	6.217	19.78
Muscle lenght	20.500	20.500	32.25
Muscle strenght	8.100	8.100	54.19

Fiexebioity	7.825	7.825	48.17
pain	6.750	6.750	285.71

Table (7) shows that the percentages of change in the variables under consideration for the initial experimental group

Table (8)

The significance of the differences between the pre and post measurements in the variables under consideration for the second WILXON experimental group. (N = 4)

variables	measeurement	Average group	direction	grade	Total grade	z	Probability of error p
Speed 50	pre	2.50	-	4	10.00	1.826	0.068
	post	0.00	+	0	0.00		
Length of the muscle	pre	2.50	-	4	10.00	1.890	0.059
	post	0.00	+	0	0.00		
Strength of muscle	pre	0.00	-	0	0.00	1.826	0.068
	post	2.50	+	4	10.00		
Flexibilit y	pre	0.00	-	0	0.00	1.841	0.066
	post	2.50	+	4	10.00		
Pain	pre	2.50	-	4	10.00	1.841	0.066
	post	0.00	+	0	0.00		

Table (8) shows that there are no statistically significant differences between the pre and post . measurements of the second experimental group in the variables in question. The table shows that there are no statistically significant differences between the two research groups in all the variables under study except the pain variable.

Table (9)

Percentage of change between the mean and the remote measurements in the variables For the second experimental group. (N = 4) under consideration

variables	Average pre measurement	Average post measurement	Percentage change
Speed 50	6.235	5.337	16.82
Muscle lenght	21.750	17.250	26.1
Muscle strenght	8.050	11.457	42.3

Flexibility	7.725	11.500	48.8
pain	7.000	3.000	133.3

Table (7) shows that the percentages of change in the variables under consideration for the second experimental group were limited between 16.82 and 133.3. Where it is clear that the rate of change is positive, it reflects the efficiency of the rehabilitation program in all variables under consideration.

Discussion of results:

The aim of the study was to identify the effect of muscle membranes on the recovery and rehabilitation of the first class football players. In light of the objectives of the study, five hypotheses that will be discussed through tribal measurement and telemetry have been formulated. To achieve this hypothesis, the mean, standard deviations, differences between groups and rate of change were used. Table (2) shows the mean, standard deviations, mean and torsion of the age, height and weight variables of the two research groups, as well as the velocity variables 50 m, length, muscle strength, elasticity and pain index of the pre measurement research group All were all between + 3, indicating the moderation of the data shown in Table (3), which expresses the significance of differences between the first training group and the second training group in the tribal measurements of the variables (age - height - weight) There are no statistically significant differences between the two research groups All variables indicating the equivalence of the two groups.

Table (5) shows the significance of the differences between the first training group and the second training group in the dimension measurements of the variables of the speed variables 50 m and the length and strength of the muscle, flexibility and pain index There are no statistically significant differences between the two groups of research in all variables except pain There are statistical differences, On the parity of the two groups. Table (6) shows the significance of the differences between the tribal and remote measurements of the velocity variables 50 m and the length and strength of the muscle, flexibility and pain index. There are statistically significant differences between the measurements of the first experimental group, while there are no differences in the other variables in all variables except pain. Indicating the parity of the two groups.

Where it is clear that the rate of change is positive, it reflects the efficiency of the rehabilitation program in all variables under consideration. The mean reading speed was 50 m in the pre measurement (6.235). The average speed in the distance measurement (5.337) and the ratio of the change between the tribal measurement and the dimension measurement was found to be (16.82)%, which explains the high level due to the use of modern methods of hospitalization and This qualification is consistent with Hanafi Mukhtar (6) and Mufti Ibrahim (12). The ability of muscles to overcome resistors using high motor velocity is the type of special strength of football. This is because physical and technical performance requires very high speed of performance. Quick, bounces, passes and corrections all require the use of BM power High edit. [6] It also agrees with Findley Thomas W. (2011). (25), which confirms that the presence of fluid flow within the muscles are the most important factors in increasing muscle efficiency and

therefore the high level is also consistent with Bob alonzi (17), which showed the high level of players from 110% to 140%. This is consistent with the study of Hatem Saad on Dahi (2012) and the study Malliaropoulos (2014) (30) this explains the rate of change or improvement in performance, which amounted to (16.82.%) Reading the pain indicator is a factor in the success of the program.

The length of the posterior muscle where the mean length of the muscle was measured in the tribal measurement (21.750). The post-measurement value (17.250) and the calculation of the percentage of change between the pre-measurement and the post-measurement were found to be (26.1%), which explains the high level due to the use of modern methods of hospitalization and rehabilitation Muscle is an effective factor in the velocity component and hence the high level. The mean reading of the force of the muscle in the tribal measurement (8.050) was the value of the telemetry (11.457) and the ratio of the change between the tribal measurement and the distance measurement, it was found (42.3) %, which explains the high level due to the use of modern methods of hospitalization and rehabilitation The length of the muscle is a factor in the velocity component and hence the higher level. Hafni Mukhtar, Mufti Ibrahim and Bordoni et al 2014 Dømmerholt J (6) (12) (18) (26) also agrees with Gina Blaine (26) (7) 2015 AyaAllah Gamal Ahmed Mahmoud (16) Also agrees with CARREGARO RL and Kapandji Richard .AI (21) (31) (34)

The mean reading of the muscle elasticity in the tribal measurement (7.725). The value of the telemetry (11.500) and the calculation of the percentage of change between the tribal measurement and the telemetry found that it was (48.8)%, which explains the high level due to the use of modern methods in the recovery and rehabilitation and muscle flexibility is a factor in Element speed is therefore high level. Ahmed Abdulsalam Attito (2012), Emad Mahmoud 2012, Hatem Dahi, Mustapha Abdel Basset and Samia Khalil (1) (10) (5), 15 as agreed with Kidd Robert F and McKenney K. et al McPartland JM 27 (28) as consistent with the study of both Malliaropoulos, NATHAN, Renstrom, Rosen, also agrees with Ashjan Atef Mahmoud Al-Hamdi and Ghayad Darwish (36) (33) (30) (32) (4) (11)

Table (8) shows the significance of the differences between the pre and remote measurements of the velocity variables 50 m and the length and strength of the muscle, flexibility and pain index. There are statistically significant differences between the measurements of the second experimental group, while there are no differences in the other variables in all variables.

It is clear from Table (9) that the rate of change is positive It reflects the efficiency of . the qualifying program in all the variables under consideration. The mean reading speed was 50 minute the pre measurement (6.217). The average speed in the distance measurement (5.190) and the ratio of the change between the tribal measurement and the dimension measurement was found to be (19.78)%, which explains the high level due to the use of modern methods of hospitalization and This qualification is consistent with Hanafi Mukhtar and Mufti Ibrahim that the ability of muscles to overcome resistors using high speed motor is the kind of special strength of football sport is due to the physical and technical performance requires very high speed of performance, rapid start ups, jumps, passes and corrections all require Use the power (rate high. (6)

As agreed with Findley Thomas W. (2011). Which confirms that the presence or flow of fluid within the muscles are the most important factors in increasing muscle efficiency and therefore the high level is also consistent with Bob alonzi (17), who explained the high level of players from 110% to 140%. This is consistent with the study of Hatem Saad on Dahi

(2012) and study Malliaropoulos (5) (30) 2014. This explains the presence of the percentage of % (change or improvement in performance, which amounted to. (16.82)
The length of the posterior muscle, where the mean length of the muscle was measured in the pre measurement (20.500). The value of the telemetry (15.500) and the calculation of the percentage of change between the pre-measurement and the telemetry found that it was (32.25)%, which explains the high level due to the use of modern methods of hospitalization and rehabilitation Muscle is an effective factor in the velocity component and hence the high level. Where the mean reading of the muscle strength in the tribal measurement (8.100) and the value of telemetry (11.490) and the calculation of the ratios of change between the tribal measurement and telemetry found it was (54.19)%, which explains the high level due to the use of modern methods of hospitalization and rehabilitation, In the speed element and thus the high level. Hanafi Mokhtar, Al Mifta Ibrahim and Bodoni et al 2014 Dommerholt (6) (12) (23) (18) Also agrees with Gina Blaine as agreed with Khalid Saeed Abdel Nabi 2015 (9) (7) (26) AyaAllah Gamal Also agrees with CARREGARO RL and (21) (16) (31) Kapandji A. Richard. (34) The mean reading of the muscle elasticity in the tribal measurement was 7.825. The value of the telemetry (11.595) and the calculation of the percentage of change between the tribal measurement and the distance measurement were found to be (48.17) %, which explains the high level due to the use of modern methods of recovery and rehabilitation, (6.750). The value of the telemetry (1.750) and the calculation of the percentage of change between the pre-measurement and the post-measurement were found to be (285.71)% Ahmed Abdulsalam Attito (2012) and Imad Mahmoud 2012, Hatem Dhahi, Mustafa Abdel Basset and Samia Khalil (1) (10) (5) (15) also agrees with Kidd Robert McKinney K. Et al McPartland JM (27) (28) (29) It is also consistent with the study of Malliaropoulos Nathan J Hoffmeier Renström Rosen Mark E as well (as Ashgan Atef Mahmoud Al-Hamdi and Ghayad Darwish 36 (33) (30)) (32) (4) (11

Thus, the study hypotheses are fully realized between the research variables of the first and the second groups. It is clear that the application of the gastron on the first experimental group with heating resulted in better results than the second experimental group that used heating and lattice.

In the second experimental group (16.82), the percentage of change in the . (19.78) variable length of the muscle of the first experimental group between the two measurements In the second experimental group (26.2), where the percentage of change in the muscle strength variable for the first experimental group between the pre and remote measurements (54.19) was in the second experimental group (42.3), where the percentage change in the variable elasticity of the group The first experiment between the pre and the post The second experimental group (48.17) was the second experimental group (48.8), where the percentage of change in the pain variable for the first experimental group was between the pre and remote measurements (285.71). In the second experimental group (133.3) Study hypotheses and objectives.

Conclusions

- 1-the rapid of pain disappearance of .
- 2- Restoring the range Muscle strength, increasing length hamstring muscle
Restore the speed of transition.

The use of the new treatment (Gastron) tool has a good effect in solving the twisted fibers or adhering to certain movements. The player feels the effect of this treatment immediately by reducing the pain, while increasing the ease of movement. This treatment is suitable for acute and chronic pains recovery where the tissues return to their natural characteristics and their use in rehabilitation and hospitalization has achieved good results in restoring the players of the ball back muscle efficiency in addition to the level rise to more than 120%

Recommendations:

Using the Gastron therapeutic tool for its good effect during pain relief and thus increasing the ease of movement for the recovery and rehabilitation of sports injuries.

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