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Effect of Self-Myofascial Massage with the Aid of Foam Roller on Lower Limb after High-Intensity Interval Training

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Abstract:

Purpose of the present study was to look at the result of self-myofascial massage with help of foam roller on lower limb once high-intensity interval training (HIIT). As for the study methodology, thirty football players were at random allotted for this study. High-intensity interval training (HIIT), the process used for the purpose of this study, which consists of a 10-pull, set of two, has a duration of 45 seconds, and 10 seconds of rest in between the two movements. The topic performed of self-myofascial massage with foam roller on lower limb. In the lower limb performance was assessed by vertical jump and the 2-hop jump test. The flexibility was evaluated through the active range of motion of ankle, knee, and hip. Muscle pain was measured exploitation the visual analogical scale (VAS), responses starting from zero (no pain) to ten (maximal pain). Pain Measurements were recorded straight off once the physical exertion. Repeated measures ANOVA were accustomed investigate variations between the 3 treatments over the 3 completely different time points. To sum up, self-myofascial release, and reduction in muscle of the lower part of the body, and to increase the level of the hip joint's range of motion, but not to a significant change in the case of a vertical jump, the 2-hop jump test.

Keywords: Foam Roller, High-Intensity Interval Training, Range Of Motion, Muscle Pain

INTRODUCTION

Good health and sound mind are the basic criteria for overall performance in any kind of game. But injuries are the part of body contact games. As a result

Foam rolling has recently become a favorite of grooming, diet, and exercise enthusiasts as well as fitness enthusiasts, which is one of the ways to reduce stiffness, increase flexibility, and dealing with the pain (Arroyo-Morales, 2008). In addition to this, the following have been noted as self-myofascial free of charge, foam rolling can be a technique that simulates a massage to treat muscles, and a variety of soft tissue restrictions, with the help of the pressure, the tension, and hence, application of mechanical force to return to the friction and heat of (Sefton, 2004). Typically, the participants use their own body weight in the on cylinder, in order to apply pressure to the particular muscle. The user can change the mode in order to treat the areas of concern or in order to increase the pressure applied to the element (Curran, 2008). Today, there is little or no evidence to support the effectiveness of rolling the foam in order to increase the elasticity of muscle fibres, increase flexibility, or the joint, the quality, and improve performance and recovery. Even though there is not enough evidence, many of the trainers and athletes use foam rollers to improve the performance, before or after a workout.

Though foam rolling technique, used by the therapists does not a have lot of research, is seen to apply. This technique is used as a similar technique of massage to release the muscle tension or sticking to the basics to revive the duration and smoothness of the face, collagen, and various soft-tissue and muscles of the body. We have to have proof that these techniques, in order to restore the vas after the exercise, improve the muscle's properties, and the asymmetry, increase muscle, and animal tissue strength, and, to facilitate the treatment of the muscular tension of the spinal curvature, and the strap placement.

In any discipline, coaches would like to have a player who has a limited, read-only memory, for not have a negative impact on the performance of the most important parts of the overall performance of the game itself, sprint, jump, acceleration-deceleration, etc. Static routes are considered to be better because of the increase in the read-only memory in the joints (Long, & Goad, 2014), but the majority of the research shows that the decrease in performance in all type of motor, documents, and leg strength, as they apply to. For this reason, there are other methods to sweeten the read-only memory has been used in the last few years, such as self-myofascial injury, foam roller lesions. This method is, logically, the, to, and likely to cause muscle tension, increasing flexibility, and thereby to increase the read-only memory (Murray, Jones, Horobeanu, 2016).

A single square, foam rolling, and have, historically, been used by those who are engaged in fitness facilities, athletes and physiotherapists as an independent hand-held medical approach to the treatment of muscular tension. But foam rolling is now in vogue to the general public, thanks to the health benefits to our overall well-being. With the advent of the motion of the foam rollers, the market has been expanding to a wider audience than ever before. The loss of flexibility is most often caused by what we are concerned about the muscles of the body. Damage to the foam roll, helps to revitalize your muscles, with their traditional work experience during the strenuous activities, and also helps to improve their flexibility. How to break down the nodes in the tissues

and the muscles, and it also helps to remove the limited variation in the causes of action which is consistent, to prepare the muscles of the easier routes to higher leagues.

Foam rolling to reduce the incidence of delayed-onset muscle soreness, the pain and difficulty felt by the muscles that occurs during exercise, usually with a peak of twenty-four, and seventy-two hours of receipt. This could be part of the reason why foam rollers have become all the rage for the sport, thanks to the strenuous, physical education, and race, and what they are going through, as well as the amount of recovery to do, in order to maintain an optimum level of fitness.

The stiffness and the slow pace of the recovery in the zone of the block-all of these are reasons why it is being used to its optimum level. Therefore, the foam rollers to make the job easier. Area of the unit, foam rolling is usually used as a part of the body in air-conditioning and refrigeration procedures, in order to organize the user's physical activity, or to aid in the recovery during physical activity. This technique has become popular for an additional static stretching, or written to add to the workout routines. If the user's performance was difficult because of a muscle strain, or consequential damages, that may further influence the level of performance. The power of the fundamental, and can be further enhanced with a hit of foam rolling during a workout as well as yoga sessions.

Considering this view, the present researcher was in opinion that foam rolling technique may deal with range of motion as acute effect. Hence the researcher has undertaken this study.

DEFINITION OF TERMS:

Foam rolling: The Foam roller can be molded, cylindrical tube, the compressed foam. it should be used by any number of reasons, in addition to that, increase your comfort, reduce soreness, and eliminate muscle knots. Foam rolling can be a means for the independence of myofascial release. The rollers are available in completely different sizes, and degrees of hardness. The hardness varies from a soft, stretchy, soft to the touch, are the best to start off with.

Range of motion (rom): The range of motion (ROM) is a measurement of the amount of moving around an object or a part of it. As a general rule, the amount of the therapeutic area, or all of a course of treatment. The alternative approach, which physical therapist may encounter, and will include gait, strength, comfort, and stability.

High intensity interval training: The high-intensity interval training, which are collectively named high-intensity intermittent work experience or sprint interval training, it can be form of interval training, coaching, strategy, program, or a program that alternates short stages of intense exercise with less-strenuous recovery stages, till too exhausted to continue. Although there is no universal time, a high level of intensity of the intermediate program, which is closely located to work, which is usually lasts for at least one-and-a-half-hour, time-varying, to maintain the

participant's current fitness level. However, the duration of the high intensity of the middleware, in general, depend on the session, the intensity of the colors.

HIITimproves their performance, and, in addition, as the metabolic rate, and improves the aldohexose. Compared to the further negotiation of the times characteristic of the different regimes and high-intensity interval training can be just as effective for treating hyperlipidemia and fleshiness, or increase lean muscle mass.

Visual analogue scale: A visual analogue scale (VAS) is a tool, a piece of equipment similar to a function which is a measure of the capacitance. It is often used in epidemiologic and clinical research to measure the intensity and frequency of the symptoms. For example, the amount of pain that a patient is living with a range between continuum's, which range from one-to-one lot of a great deal of pain in size.

STATEMENT OF THE PROBLEM:

The purpose of the present study was to "examine the effect of self-myofascial massage with the aid of foam roller on lower limb after high-intensity interval training.

METHOD AND MATERIALS:

Subject: Thirty young men between the ages of 18 and 20 years old, and was a university-level of professional football players (N= 20), with a minimum of five years of professional football experience and play all the time without the vestibular, neurological, orthopaedic or musculoskeletal injuries (past or present). Each player has 2 years of training and racing experience and has been involved in a variety of university-level competitions. Each player maintains his level of regular physical activity throughout the study period.

Test/tools:

Vertical jump test (sargent jump, vertical leap):

The vertical jump test is a test of the strength of the lower body.

Objective: to gauge the leg muscle strength

Equipment required: measuring tape or marked walls, chalk to mark the wall.

Procedure: the subjects stand side on to a wall, in order to reach the top and, on the other hand, closer to the wall. Keep your feet flat on the ground, the score, and the finger-tips, to be recorded. This is known as the height of the constants of the order of the poor. The subjects are placed in the walls, and jump vertically as high as possible using both arms and legs in order to help the projects of the body facing upwards. The jumping technique may or may not be used as a counter. Try to touch the wall at the highest point of the jump. The difference in the distance

between the level of the wealthy class, and the height of the jump, that's the point. The best of three trials is recorded

Scoring: Jump height is usually written in the distance calculation.

2-hop jump test:

The test measures power and coordination of leg in which subjects perform two repeated horizontal jumps. There is also a similar 3-hop test.

Purpose: to measure the horizontal and vertical power of the legs with a component of balance and coordination, testing the maximum distance of two consecutive double-leg hops.

Objective: the purpose is to take the amount of the horizontal and vertical forces from the leg to balance and co-ordination of the component, the maximum of the distances of two consecutive jumps, the two-legged.

Equipment required: measuring tape to measure the distance of the jump-straight-up, non-slip surface.

Procedure: The Athlete who is starting from behind the line of scrimmage by placing your feet shoulder-width apart and pressing his feet to the board. On the basis of a bent state, and when they are finished, they will have to jump forwards with both legs instead of two, broad jumps, and without interruption, and with both straight and vertical, to help the hope, that enable them to achieve maximum distance. After the opening of the second jump, the broad, the contestants have to stand your ground at his feet, in order to ensure accurate measurement. Athletes are able to use their hands for the help of explosive movement, and balance.

Scoring: to highlight the best of the distances of the two tests. The measurements of the production, making it the closest to the points of contact on the landing, the second hope (back of the heel). It's not allowed, if the athlete starts out with her feet on the take-off line, steps into either hop instead of performing a two-footed hop, gaps at least a full second upon landing the first hop.If fails to land the first hop neatly or makes a stammer step prior to the second take-off, or fails to land the second hop in such a way that allows clear marking of the landing spot.

Hip range of motion

Hip flexion:

The First and the last of the situations: The subjects should lie back in the anatomical position. As a point of support that is in line with the more lateral part of the thigh. While the arm is at the side, along the median line of the abdomen, the spirit is in the basin, the variable is along the midline of the thigh.

Warning: allow the knee to bend, and to prevent the stretching of the hamstring muscles, the muscles of the human body.

Hip extension:

The first and the last of the situation: The subjects is lying on his stomach, legs together, hands are well aware of this. The protractor to the position is the same position as you bend your waist.

Caution: This is in order to prevent stretching and keep the knee extended to the stretching of the thigh and the body of the muscles of the body.

Calculation of knee range of motion

Knee flexion: Range of motion in the knees will be evaluated in the dominant leg of the evaluation process. The participant will be active, to bend the knee, and the examiner to measure the joint with the help of a variety of digital goniometer. Place the goniometer axis, at the intersection of the hip and knee, the center of rotation of knee joint, the lateral condoyle of femur. Fixed arm is at the side of the thigh, below the line that extends from the knee joint to the more lateral of the thigh. The movable arm is located on the outer side of the rectus fibula to the muscles. (Knee extension, is considered to be 0 (full extension) of the position and the deflection was measured after).

Subjects-position: supine.

Ankle range of motion:

Ankle doris flexion: In the face of all challenges, the participants will perform dynamic warm-ups. The total amount of time for each of the last preparatory courses, about 10 minutes. Range of motion, the evaluation was carried out 3 to 5 minutes after the dynamic warm-up, and the rest interval, 3 to 5 minutes between the ends of the warm-up to the beginning of the range of motion assessment. In the present study, in the course of discussion, only the dominant leg. Dorsiflexia of the ankle joint where the joint to be measured in two knee positions: dorsiflexia of the ankle joint were common, as measured with knee fully extended and flexed to 90°, and the subjects, in order to get to the practitioner on the table. All of the data was carried out three times at one and the same, researchers, and the data as an average of the three trials for each subject.

Visual analogue scale:

The tool used for the first time, in the psychology of Freud, 1923. If you have to describe terms such as "mild", "moderate", "severe", or “scale of devices, add to a VAS.

A simple VAS’ is represented by a straight horizontal line of fixed length, typically 100 mm, the ends are distinct as the extreme outside of a tangible asset (symptoms, pain, and health), on the left, the orientation of the (ill) on the right side (the best).

The assessment and Interpretation:

With the help of a point to a line, as determined by the distance (mm) along a 10 cm line from "no pain" anchor of the patient and the label in order to provide a score between 0 and 100. A higher score indicates greater pain intensity. The VASE is recommended: no pain (0-4 mm), mild pain (5-44 mm), moderate pain (45-74 mm), and severe pain (75-100 mm) in (11). There is no default value.

PROCEDURE

Twenty healthy men partook in this training. The purpose of this experiment was to evaluate the effects of independent, myofascial massage, with the foam rolling of the lower extremities by the intensity of the middleware, which is based on the selected recovery data. For this study, we used the high-intensity interval training (HIIT) process, which consists of a 10-movement of the two-set the duration to 45 seconds with a 10 second rest in between the two moves.

All of these variables have been assessed on three occasions: for the first 10 minutes of the general exercises-as a baseline measurement immediately after HIIT, and immediately after the independence of the myofascial-massage with a foam roller.

Hiit exercise schedule:

It is intense training session, in general, for the last 30 minutes is less than the amount of time that will vary depending on your current level of physical fitness of the participants. Below is a diagram of HIIT exercise, which is used for the purposes of this study.

Hiit exercises schdule

Exercise and Rest Duration	
45s-Climbers and 10 Sec. rest	
45 sec. of jumping Lunges, 10 Sec. rest	
45 seconds of push-ups, 10 Sec. rest	
45 sec high knees, 10 Sec. rest	10 Movements
45 sec Jump Squats, 10 Sec. rest	45 seconds
45 sec plank jacks,10 Sec. rest	2 x through
45s Butt Kickers 10 Sec. rest	

45s Burp And 10 Sec. rest	
45s Jumping Jacks And 10 Sec. rest	
45s Plank walk,10 Sec. rest	

Foam rolling process at lower body:

The rolling foam, the process at the bottom of the case, the right and left legs are massaged with a foam roller. The subjects will perform a 15-minute solo, myofascial massage of both legs. An independent myofascial release using the pressure, body weight, in conjunction with a foam roller to apply the active drop zone therapy, in order to trigger specific points on the body.

Quadriceps:

To Begin with, in a vulnerable position, and place the roller in the middle of the thigh, just below the iliac crest. Scroll to the top of the thigh, and the higher up on the top of the knee.

Hip Rotator:

Sitting on a mountain, and to cross her legs over the other, in order to focus on the affected hip. Just keep throwing short and concise, which hit the object is to be the focus of the way of the trigger-points.

Adductors:

Flex the subject's legs and start to roll it, just above the knee, and then begin to roll it into your groin.

IT Band:

To be placed on the affected side, with one of the roles in the right-hand side. It supports the weight of your hands and roll it from the bottom of hips, the top of the knee, joint, keeping the leg straight line, and that was it. In order to increase the difficulty, it was considerably less than that of the other.

Hamstrings:

The Hamstring tendon is, to begin with, to put a roller under your right hip, and then scroll to the lower part of your thigh to your upper thigh. In order to increase the difficulty, an ankle, and to focus on the right all at once.

Lower Back:

The lower part of the Back, Start by crossing your arms over your chest, and keep your feet flat on the back of the roll. After that, scroll down half way to the back, to the right of your glutes, draw your erectors and any trigger points along the way.

RESULT FINDINGS AND ANALYSIS:

Repeated measures ANOVA were used to investigate differences between the three treatments over the three different time points (after 10 min general exercise as a base line measurement, immediately after HIIT and immediately after self-myofascial massage with a foam roller).

Table – 1

Repeated Measures Analysis of Variance of Vertical Jump Test of University level soccer players

Sources	**SS**	**df**	**MS**	**F**
Between treatments	4.82	2	2.41	
Within Treatment	85.23	87	0.98	
Between subjects	30.72	29	1.06	2.56
Error	54.51	58	0.94	
total	90.06	89	1.01	

Not Significant at 0.05 level of confidence

F (2, 58) = 3.16

Table no 1 shows that there was no significant change among three different treatments over the three different time point in relation to Vertical Jump Test of University level cocker players.

Table – 2

Repeated Measures Analysis of Variance of 2Hop Jump Test of University level soccer players

Sources	**SS**	**df**	**MS**	**F**
Between treatments	3.29	2	1.64	
Within Treatment	479.33	87	5.51	
Between subjects	446.62	29	15.40	2.91
Error	32.71	58	0.56	
total	482.62	89	5.42	

Not Significant at 0.05 level of confidence

F (2, 58) = 3.16

Table 2 shows that there was no significant variance between the three different treatments at three different time points in relation to the 2 Hop Jump Test of university level soccer players.

Table – 3

Repeated Measures Analysis of Variance of Hip Range of Motion (extension) of University level soccer players

Sources	**SS**	**df**	**MS**	**F**
Between treatments	1.30	2	0.65	
Within Treatment	34.74	87	0.40	
Between subjects	24.60	29	0.85	3.72*
Error	10.04	58	0.17	
total	36.04	89	0.40	

* Significant at 0.05 level of confidence

F (2, 58) = 3.16

Scheffe Test

No Treatment vs. HIIT treatment :

F No Treatment vs. HIIT treatment = 0.65

Since F No Treatment vs. HIIT treatment = 0.65< Fcrit = 3.16, so, there was no significant difference between no treatment (NT) and HIIT treatment.

No Treatment versus foam roller treatment (FRT) :

F No Treatment (NT) vs. foam roller treatment (FRT) = 3.69

Since F No Treatment (NT) vs. foam roller treatment (FRT) = 3.69 > Fcrit = 3.16,

So there was significant difference between No Treatment (NT) and foam roller treatment (FRT)

HIIT treatment (HIITT) versus foam roller treatment (FRT) :

F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 1.86

Since F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 1.86 < Fcrit = 3.16, so there was no significant difference between HIIT treatment (HIITT) versus foam roller treatment (FRT).

Table -4

Repeated Measures Analysis of Variance of Hip Range of Motion (flexion) of University level soccer players

Sources	**SS**	**df**	**MS**	**F**
Between treatments	1.87	2	0.93	
Within Treatment	41.96	87	0.48	
Between subjects	29.30	29	1.01	4.27*
Error	12.66	58	0.22	
total	43.83	89	0.49	

Significant at 0.05 level of confidence

F (2, 58) = 3.16

Scheffe Test

No Treatment vs. HIIT treatment :

F No Treatment vs. HIIT treatment = 0.40

Since F No Treatment vs. HIIT treatment = 0.40< Fcrit = 3.16, so, there was no significant difference between no treatment (NT) and HIIT treatment

No Treatment versus foam roller treatment (FRT):

F No Treatment (NT) vs. foam roller treatment (FRT) = 4.09

Since F No Treatment (NT) vs. foam roller treatment (FRT) = 4.09 > Fcrit = 3.16,

So there was significant difference between No Treatment (NT) and foam roller treatment (FRT)

HIIT treatment (HIITT) versus foam roller treatment (FRT):

F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 2.89

Since F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 2.89< Fcrit = 3.16, So there was no significant difference between HIIT treatment (HIITT) versus foam roller treatment (FRT).

Table -5

Repeated Measures Analysis of Variance of Knee Range of Motion (flexion) of University level soccer players

Sources	**SS**	**df**	**MS**	**F**
Between treatments	3.09	2	1.54	
Within Treatment	82.17	87	0.94	
Between subjects	62.30	29	2.15	4.50*
Error	19.87	58	0.34	
total	85.26	89	0.96	

*Significant at 0.05 level of confidence

F (2, 58) = 3.16

Scheffe Test

No Treatment vs. HIIT treatment:

F No Treatment vs. HIIT treatment = 0.31

Since F No Treatment vs. HIIT treatment = 0.31< Fcrit = 3.16, so, there was no significant difference between no treatment (NT) and HIIT treatment:

No Treatment versus foam roller treatment (FRT):

F No Treatment (NT) vs. foam roller treatment (FRT) = 4.21

Since F No Treatment (NT) vs. foam roller treatment (FRT) = 4.21 > Fcrit = 3.16,

So there was significant difference between No Treatment (NT) and foam roller treatment (FRT

HIIT treatment (HIITT) versus foam roller treatment (FRT):

F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 2.24

Since F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 2.24< Fcrit = 3.16, so there was no significant difference between HIIT treatment (HIITT) versus foam roller treatment (FRT).

Table -6

Repeated Measures Analysis of Variance of Ankle Range of Motion **(**dorsiflexion**)** with knee flexed of University level soccer players

Sources	**SS**	**df**	**MS**	**F**
Between treatments	8.22	2	4.11	
Within Treatment	89.13	87	1.02	4.44*
Between subjects	35.50	29	1.22	
Error	53.63	58	0.92	
total	97.35	89	1.09	

*Significant at 0.05 level of confidence

F (2, 58) = 3.16

Scheffe Test

No Treatment vs. HIIT treatment:

F No Treatment vs. HIIT treatment = 0.85

Since F No Treatment vs. HIIT treatment = 0.85< Fcrit = 3.16, so, there was no significant difference between no treatment (NT) and HIIT treatment

No Treatment versus foam roller treatment (FRT):

F No Treatment (NT) vs. foam roller treatment (FRT) = 4.42

Since F No Treatment (NT) vs. foam roller treatment (FRT) = 4.421 > Fcrit = 3.16,

So there was significant difference between No Treatment (NT) and foam roller treatment (FRT

HIIT treatment (HIITT) versus foam roller treatment (FRT):

F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 1.40

Since F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 1.40< Fcrit = 3.16, so there was no significant difference between HIIT treatment (HIITT) versus foam roller treatment (FRT).

Table -7

Repeated Measures Analysis of Variance of Ankle Range of Motion **(**dorsiflexion**)** with knee extended of University level soccer players

Sources	**SS**	**df**	**MS**	**F**
Between treatments	8.90	2	4.45	
Within Treatment	81.84	87	0.94	
Between subjects	25.22	29	0.87	4.56*
Error	56.62	58	0.98	
total	90.74	89	1.02	

*Significant at 0.05 level of confidence

F (2, 58) = 3.16

Scheffe Test:

No Treatment vs. HIIT treatment:

F No Treatment vs. HIIT treatment = 0.03

Since F No Treatment vs. HIIT treatment = 0.03< Fcrit = 3.16, so, there was no significant difference between no treatment (NT) and HIIT treatment

No Treatment versus foam roller treatment (FRT):

F No Treatment (NT) vs. foam roller treatment (FRT) = 3.73

Since F No Treatment (NT) vs. foam roller treatment (FRT) = 3.73 > Fcrit = 3.16,

So there was significant difference between No Treatment (NT) and foam roller treatment (FRT

HIIT treatment (HIITT) versus foam roller treatment (FRT):

F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 3.08

Since F HIIT treatment (HIITT) versus foam roller treatment (FRT) = 3.08> Fcrit = 3.16, so there was significant difference between HIIT treatment (HIITT) versus foam roller treatment (FRT)

CONCLUSION:

In this study, aimed to investigate the effect of self-myofascial massage with the help of foam roller on lower limb after high-intensity interval training (HIIT). From the above statistical calculation, it was found that the self-myofascial decreased muscle pain of the lower limbs and

increased the range of motion but not significant changes in case of vertical jump and 2 hop jump test.

Several studies have already done regarding the effect of foam rolling on sports performance and range of motion. One study conducted by Macdonald et al. (2013) and found that self-myofascial release increases range of motion. On the other hand, Wiewelhove et al. (2019) claimed that foam rolling also reduced pain perception.

There have been many theories on the effectiveness of foam rolling. The systemic treatment of this limitation with the use of foam rollers, massage therapy, or as an alternative to the soft tissue, it would be the improvement of the joint is going to vary depending on the movement, and to improve the overall flexibility of the breaking up of adhesions (Curran, 2008). It is believed that the slow-sweep pressure to stimulate the soft tissue extensibility, and so long as the pressure is applied to the area, with a total weight of 60-90 seconds (Paolini, 2009).

It was recommended that, that facia exhibits a thixotrophic property within which body is shrivelled with agitation or pressure throughout foam rolling. So, as soon as the pressure is applied to the friction and heat of transition, the window display, in addition to a liquid state, and the issuance of licenses to increase the elasticity of the muscles and range of motion of the joint (Schleip, 2003).

In case of VAS (visual analogue scale), differences were observed among three conditions and pain was reduced more when applied foam rolling.

The superficial fascia is a soft connective tissue located just beneath the skin. It brings together and connects the muscles, bones, nerves, and blood vessels in the human body. For various reasons including disuse, not enough stretching, or injuries, the fascia and the underlying muscle tissue can become stuck together. This is called an adhesion. This has got to be one of the bond, and results in a decrease in muscle movement. It can also be the cause of the pain, pain, suffering, and loss of flexibility or range of motion. When foam rolling, use with caution, and with the continued pressure on the soft tissues, and, as a result of the softening and the extended-release form of the plantar fascia, and the breakdown of scar tissue, or adhesions between skin, muscles, and bones. During exercise, your body builds up lactic acid. The build-up of lactic acid is often associated with muscle cramps, and fatigue, especially after strenuous exercise. Foam rolling can help to accelerate the body in the breakdown of lactic acid after a workout. As a result of muscle fatigue and the pain lessens.

Similar study may be conducted with a large scale of subjects with different age group of people. In addition, some more methods may be used to measure lower-body power to assess the results in a large scale of application and generalization.

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