

## 스포츠 마사지와 발반사마사지가 요통감소에 미치는 영향

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### The Effect on Decrease in the Lumbago by Foot Reflex Massage and Sports Massage

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#### -ABSTRACT-

본 연구의 목적은 스포츠 마사지와 발반사 마사지가 요통감소 미치는 영향을 규명하기 위해 S시에 소재하고 있는 요통 전문 클리닉 2곳에 등록된 환자 30명을 대상으로 실시하였다. 스포츠 마사지그룹(15명)과 발반사 마사지그룹(15명)은 각 각 전담지도자의 관찰아래 12주동안 주3회, 1일 60분씩 실시하여 다음과 같은 결과를 나타내었다.

1. 요부 통증에 관한 조사 결과 스포츠 마사지그룹은 86.7%, 발반사 마사지 그룹은 66.7%가 요부통증이 개선된 것으로 나타났다. 이러한 결과로 볼 때 요부통증의 개선에는 스포츠 마사지와 발반사 마사지 모두 효과가 있는 것으로 나타났으며 특히 스포츠 마사지의 효과가 발반사 마사지보다 약간 높은 것으로 나타났다.
2. 자세 변화에 관한 조사 결과 스포츠 마사지그룹은 53.3%, 발반사 마사지 그룹은 6.7%가 자세가 개선된 것으로 나타났다. 이러한 결과로 볼 때 자세 변화의 개선에는 스포츠 마사지와 발반사 마사지 모두 효과가 있는 것으로 나타났지만 스포츠 마사지의 효과가 발반사 마사지 보다 매우 높은 것으로 나타났다.

## I. Introduction

There are about 10 causes of a lumbago, but to condense them representatively it can be said that they are symptoms mostly from the wind, cold, and disease factors which are permeated into a blood vessel or injured by the kidney's weakness or trauma so that the blood becomes turbid. In winter, these lumbago causes the bones and muscles to be compressed, making it difficult to bend or stand or parts near hip or legs hurt constantly. The sick region is aggravated when the rainy season comes while it is cold.

The lumbago starts off its symptoms smoothly and the sickness is molified, but it can not be cured for a long time and the fatigue in spirit and waist and knees becomes impotent. The lumbago by trauma have a characteristic that the sick region is generally fixed because it was once sprained or hurt.

Cypress(1983) mentioned that 80% of total population is suffering from lumbago and Frymoyer J. W(1980) announced that 10~15% of people are chronic lumbago patients. The lumbago of these kinds have risen to important subject in health care and was also brought in as the problems of national health since it could flinch the everyday life.

The means to solve the lumbago are the dietary treatment, medicine treatment, operation treatment, and exercise treatment, etc, but the results are not yet successful enough to be satisfied. The operation treatment often causes a secondary effect and there follows problem of the danger and the expenses. Therefore it is now based on the conversion to the positive method of body activity.

From the body activity point of view, Sang-Hun Lee, Se-Ju Kim(1994), etc has announced satisfactory results in the uniform velocity movement

of the lumbar flexor and extensor of chronic lumbago patients by using massage. Jae-Woon Lee(1997) has announced that the massage have great effects on lumbago patients.

In recent research, it is announced that foot massage adaption based on reflex study is facile and have effects on mitigation in stress and pain, etc. The foot massage expects to have different medical effects from Atony treatment since there is a contact using hands. As the matter of fact, Field et al(1992) has announced that massage have more effects on gloomy teenagers and reducement of stress hormone in pregnant. Like these treatments which have huge influence both on everyday lives and society were rests on bed and physical therapy in the past(Robert J. J et al, 1995), but after the mid 80's, it was believed that the cause of lumbago was in the physical fitness and therefore the active exercise programs based on physical reinforcement are being adapted to the most of the treatments currently(McQuade K. J et al, 1988). Mayer(1985) had announced the average value of flexor and extensor of the waist based on 178 men and 108 women who suffer lumbago. Sang-Hun Lee and Se-Ju Kim(1994) announced the evaluation of uniform velocity movement of the lumbar flexor and extensor of chronic lumbago patients, and Byung-Ho Jeon(1997) had a research on the influence of massage on the physical strength.

The efforts which were put in to solve the problem of lumbago facilitated diverse development of programs. McQuade K.J (1987), Mayer(1985), Ki-Suk Sung(1998) have implied through dynamical research that pain from lumbago can be reduced by reform of posture, walking, stretching, massage of the whole body, etc. Based on the cases of research presented above, verifying the effects of sports

massage and foot massage on mitigation of lumbago becomes an important issue.

## II. Method of Research

### 1. Research Object

2 groups of 15 people were randomly assigned from 2 lumbago specialized clinics according to the experimental project for the verification of this research's object. Physical characteristics of devoted sports massage participants and foot reflex massage participants are shown in Table 1.

Table 1. Physical characteristics of participants

Item	Group	S · M(n=15)	F · M(n=15)
Age		39.5±3.70	39.8±3.80
Height(cm)		159.6±4.05	159.1±5.10
Weight(kg)		55.3±9.01	57.3±7.50

### 2. Methods of experiments

All the research participants were divided into 2 groups of sports massage participants and foot reflex massage participants. Participants had the massage performed 60 minutes a day, 3 times of massage in a week, in total of 12 weeks under the inspection of the director. The methods of sports massage and foot massage are as followed.

#### 1) Method of sports massage

In this experiment, the massage was performed starting from the below parts of the waist(the participant is lying with one's face down) to the direction of back, neck, shoulder, and again to the spinal regions for 15 minutes of soft rubbing.

#### 2) Method of foot reflex massage

The massage was performed for about an hour with the participant sitting down in a comfortable position.

- (1) First, massage the corresponding parts of basic reflex regions(kidney, ureter, bladder, urethra) for 5 times. (5 minutes).
- (2) Massage direct reflex regions(head - cerebrum, neck, shoulder, trapezius muscle, sciatic nerve, liver) for 10 times. (10 minutes).
- (3) Massage indirect reflex regions(vertebrae from cervical vertebral to sacrococcygeal, eyes, gastrointestines from stomach to anus, diaphragm) for 5 times. (10 minutes).
- (4) Massage basic reflex regions(kidney, ureter, bladder, urethra) for 5 times. (5 minutes)
- (5) Perform the massage on right foot with the same method as above.

Sports massages applied in this experiment were mostly rubbing hard, kneading, pressure, and percussion and thumb or finger walking, rotation, stretching, pressure, and rubbing were mostly applied in foot reflex massage.

### 3. Method of measurement

The solutions could be deduced by the factors of lumbago patients' behavior or thoughts since lumbago is the result of living habits. This research had an examination on conditions of body after the application of Module as the following.

#### 1) Lumbar pain

Surveys of Table 2 were developed and enforced for the confirmation of pain reduction after the

application of Module.

2) Posture change

Surveys of Table 3 were developed and enforced for the confirmation of posture changes after the application of Module.

3) Content of examination

Surveys were developed and enforced to find out whether sports massage or foot reflex massage are needed for the participants or not.

Table 2. Content of examination on lumbar pains

	1	2	3	4	5
Really do not know		Do not know	Indifferent	Pain reduced	Pain solved
	.	.	.	.	.
	.	.	.	.	.

Table 3. Content of examination on posture changes

	1	2	3	4	5
Really do not know	Indifferent	Became better	Posture improved	Posture reformed	
	.	.	.	.	.
	.	.	.	.	.

4. Method of result management

The surveys had been done by the field overseers after 12 weeks of experimental management. The results were calculated item by item by percentage.

III. Result and Discussion

30 patients were selected with 15 for sports massage and the rest for the foot reflex massage from 2 lumbago specialized clinics. The results of

experiments on sports massage and foot reflex massage are as followed.

1. Lumbar pain

On survey of lumbar pain, 10 people (66.7%) out of 15 reported that the lumbar pain was reduced after the reflex foot massage and 13 people (86.7%) out of 15 people reported that the lumbar pain was reduced after the sports massage. Based on this result, sports massage is considered to have more effects, especially on improvement of lumbar pain.

Table 4. Result of examination on lumbar pains

Group Point	1	2	3	4	5
	Really do not know	Do not know	Indifferent	Pain reduced	Pain solved
SM(n=15)	.	.	2(13.3%)	2(13.3%)	11(73.3%)
FM(n=15)	.	.	5(33.3%)	6(40.0%)	4(26.7%)

2. Posture change

On survey of posture change, 1 person (6.7%) out of 15 responded that the posture was changed after the foot massage, when 8 people (53.3%) out of 15 reported improved postures after the application of sports massage. Based on this result, sports massage is considered to have more effects on improving the postures.

Table 5. Result of examination on posture changes

Group Point	1	2	3	4	5
	Really do not know	Indifferent better	Became improved	Posture reformed	Posture reformed
SM(n=15)			4(26.7%)	3(20.0%)	8(53.3%)
FM(n=15)		2(13.3%)	6(40.0%)	6(40.0%)	1(6.7%)

### 3. Discussion

In recent research, it is announced that foot massage adaption based on reflex study is facile and have effects on mitigation in stress and pain, etc. The foot massage expects to have different medical effects from Atony treatment since there is a contact using hands. As the matter of fact, Field et al(1992) has announced that massage have more effects on gloomy teenagers and reducement of stress hormone in pregnant.

McQuade K.J (1987), Mayer(1985), Ki-Suk Sung(1998) have implied through dynamical research that pain from lumbago can be reduced by reform of posture, walking, stretching, massage of the whole body, etc. Based on the cases of research presented above, verifying the effects of sports massage and foot massage on mitigation of lumbago becomes an important issue.

Pain is recognized by consciousness in thalamus of the brain. Cortical and brainstem in supraspinal are related to the secretion of chemical elements like endolphin and serotonin.(Watson, 1982). Formation and circulation of the endogenous opiate could be called the distinct reaction of massage. These are mostly natural painkillers found in brain globules which circulate the entire body. One of these painkillers is Beta-endorphins which is opioid peptides and another painkiller is lipotropin.

This is engendered in pituitary and it performs the function of modifying the fat from adipose tissue. Beta-lipotropin includes painkillers such as endorphins and metenkephalins. These chemical elements repress or control the transmission of pain at three spots. Milan(1986) announced that painkillers could be more active as terminal sensory nerves, spinal nerves, limbic system and cortical layers of brain are promoted to

circulate by massage. Massage is distinguished from epidural injection and pethidine. (Frazer, 1978) According to the results, two modules, sports massage and foot reflex massage were effective at positive changes of lumbago and it also suggested that constant exercise is effective in lumbago. These correspond to the research of McQuade K.J(1987), Byung-hyo, Jeon(1997 ), Mayer(1985), and Ki Suk Sung(1998).

## IV. Summary and conclusion

### 1. Summary

The purpose of this research was to examine the effects sports massage and foot reflex massage have on lumbago treatment as 30 patients from 2 lumbago specialized clinics were the subjects of research. They were randomly divided into 2 groups of 15 people as the sports massage participants and foot reflex massage participants. The sports massage and foot reflex massage had been applied under the inspection of the director 60 minutes a day, 3 times a week, and for 12 weeks as the independent variation.

### 2. Conclusion

- 1) Both sports massage and foot massage are effective in improving lumbar pains, especially the sports massage is considered to have higher effects than the foot massage.
- 2) Based on this result, it is considered that the sports massage is more effective in posture changing than the foot massage.

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