
발목의 안쪽 굽힘과 바깥쪽 굽힘의 치료

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Treatment of Dorsiflexion과 Plantarflexion

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요 약

본 논문에서는 만성 발목 불안정성이 있는 환자의 발목 재손상을 예방하고자 한다. 이를 위하여 발목의 안쪽 굽힘(Dorsiflexion)과 바깥쪽 굽힘(Plantarflexion)의 각도를 측정한다. 각도가 일정 범위 내에 있고 고통을 호소하지 않으면 정상으로 간주한다.

ABSTRACT

This paper aims to prevent re-damaging of the ankles of patients with chronic instability in ankles. For this purpose, the angles of dorsiflexion and plantarflexion of ankle will be measured. If the angle is within prescribed range and the patient does not complain of pain, it will be deemed normal.

키워드

발목{Ankle}, 안쪽 굽힘(Dorsiflexion), 바깥쪽 굽힘(Plantarflexion), 고통(Pain)

I. 서 론

The diseases of the hands and feet could be thought as the most common disease experienced throughout one's life. In particular, the damages to the lateral ankle ligaments of the ankle are very common. What is chronic instability in ankles? Chronic instability in ankles generates habitual spraining of ankle or pains such as soreness and aches even if one is not moving. Chronic ankle instability occurs due to the weakening of the ligament if repetitively sprained ankle is left unattended.

The purpose of [1] was to investigate the acute influence of varied levels of restricted ankle dorsiflexion on knee joint sagittal and frontal plane kinematics and kinetics during gait. The purpose of [2] was to evaluate the range of motion of the hip and ankle joints

during gait in women with and without fibromyalgia.

II. Dorsiflexion and plantarflexion

Dorsiflexion refers to the bending of the ankle to the dorsum direction of foot while the ankle is maintained in 90° neutral posture. This is also referred to as the rear/proximal movement of the talus. At this time, the range of motion of the joint, that is the angle of the ankle, is 15~30°. If the angle of range of motion of the joint is substantially smaller than 15° or if one experiences pain when the ankle is bent, the ankle can be deemed abnormal. The method of measuring dorsiflexion is illustrated in Fig. 1 below.

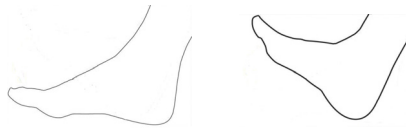


Fig. 1 Dorsiflexion

Plantarflexion refers to the bending towards the sole of the foot while keeping the ankle at 90° neutral posture. This is also referred to as the frontal/lateral movement of the talus. At this time, the range of motion of the joint, that is the angle of the ankle, is 40~50°. If the angle is substantially smaller than 40° or exceeds 50°, and one complains of pain when bending, it signifies the damages to the lateral ankle ligaments. Method of measurement of plantarflexion is illustrated in the Fig. 3 below.



Fig. 2 Plantarflexion

There actually are a diverse range of therapeutic methods for ankle. In this thesis, the following therapies will be implemented on the ankle as a part of manual therapy. Therapeutic methods on dorsiflexion include traction, and forward gliding and backward gliding.

III. 실험

The experiment was executed on general public over the age of 60 years old. Plantarflexion and dorsiflexion were measures on a total of 50 subjects. The results of the experiment are given in the Table 1 below.

Table 1. Results of experiment

Categories	Before therapy	After therapy
Abnormality in plantarflexion	11	5
Abnormality in dorsiflexion	8	4
Abnormality in both	5	3

As it can be seen from the Table, 22% of the entire subjects displayed abnormality in

dorsiflexion and 16% displayed disability in plantarflexion prior to the therapy. There also were abnormalities in both in 10% of the subjects. These proportions changed to 10%, 8% and 6%, respectively after the therapy. Accordingly, approximately 20% of the elderlies over the age of 60 years old were found to have abnormality in the ankle bone.

IV. 결 론

In this thesis, the angles of dorsiflexion and plantarflexion of the ankles were measures for the patients with chronic instability in ankles. Those with the angles measured within prescribed range and no pain were determined to be normal. However, if the measured angle is outside the prescribed range or if the patient complains of pain, such patient is deemed to have abnormality in ankle bone.

Acknowledgement

"This research is partially supported by Institute of Information and Telecommunication Technology of KNU"

참고문헌

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