팔꿈치의 굽힘과 폄을 위한 헬스케어 시스템

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Healthcare System for Elbow Flexion and Extension

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요 약

이 논문에서는 일반적인 팔꿈치 질환에서 굴곡 및 신전의 이상을 논의하고자한다. 굴곡 및 연장은 90 도가되도록 설정되어있는 동안 팔의 굴곡 및 연장을 나타냅니다. 이 경우 팔의 각도가 현저히 작거나 통증이 동반되면 팔꿈치에 이상이 생깁니다. 우리는 50 대 100 명의 팔꿈치 굴곡 및 연장을 테스트하고 각 경우의 사람 수를 계산했습니다. 그 후 굴곡 및 신전시 이상이있는 환자를 분류하여 각각의 치료 방법을 제시 하였다. 본 논문에서는 근골격계 질환 치료를위한 시스템을 구축했다.

ABSTRACT

In this paper, we discuss the abnormalities of flexion and extension in elbow disease in general. Flexion and extension represent arm flexion and extension while being set to 90 degrees. In this case, the angle of the arm is remarkably small, or the pain is accompanied by an abnormality in the elbow. We tested 100 elbow flexions and extensions at the age of 50 and calculated the number of people in each case. After that, patients with abnormalities in flexion and extension were classified and their treatment methods were presented. In this paper, we have developed a system for treating musculoskeletal disorders.

키워드

Flexion, Extension, Abnormality, Musculoskeletal Disorder

Ⅰ. Introduction

Flexion of the elbow provides important functions such as pulling, lifting, and eating food. The elbow extension also allows the user to perform actions such as throwing or stretching. Related papers were published [1] that measured variability of maximum elbow joint torque calculated during periodic elbow flexion and extension.

The purpose of [2] was to determine the cerebral measurement reliability of manual testing of elbow flexor muscle spasms using the modified Ashworth scale. In this study, we extended the patient's elbow to the maximum extension of the maximum arm length at the maximum flexion position, with the forearm gripped away.

Ⅱ. Flexion and Extension of Elbow

The patient should be awake and be cooperative in elbow flexion testing.

1) The patient makes the elbow 90 degrees.

2) The bottom of the hand should face upward.

3) The patient should have his / her elbow fully bent by raising his / her hand.

4) The examiner instructs the patient to remain in position for a maximum of 1 to 3 minutes.

5) The inspector examines the patient for a few minutes. He can apply gentle pressure to increase elbow flexion.

6) At this time, the angle should be 130 ~ 145 degrees.

7) If the angle is too small or accompanied by

pain, it is called cubital tunnel syndrome.

The patient should be awake and be cooperative in the elbow dilation test.

1) The patient makes an elbow 90 degrees.
2) The bottom of the hand should face up.
3) The patient pulls his / her hand down completely.
4) The examiner instructs the patient to hold the posture for a maximum of 1 to 3 minutes.
5) The inspector examines the patient for a few minutes. He can apply gentle pressure to increase elbow flexion.
6) At this time, the angle should be 0 ~ -5 degrees.
7) If the angle is too small or painful, it is called potential fractures.

III. Experiment

In this study, we conducted experiments with 100 general people in their 50s. Personal information, the flexion angle, the extension angle, and date of whether a person felt pain were entered. It didn't matter even with all three types or with more than(equal) one. For reference values, flexion was set between 130 degrees and 145 degrees, and extension was set between 0 degrees and －5 degrees. The experimental result was shown in Table 1.

Table. 1. Experimental Results

Total persons	Flexion angle		Extension angle		with pain	Note
	Large	Small	Large	Small		
Person (Total persons: 88)	3	17 (Pain : 4)	4	23 (Pain : 2)	6	If accompanied with pain, flexion and extension were both treated.
Percent	3.4%	19.3%	4.5%	26.1%	6.8%	

IV. Conclusions

In this study, we presented a medical system dealing with flexion anomalies of elbow disease. When the arm was defined as a 90 degree angle of flexion and extension as flexion and extension, and the angle of the arm was significantly smaller or accompanied by pain, the patient received a full medical examination at the hospital. Elbow fracture suspicion. In addition, it was easy to decide how and when to report an abnormality. We also presented a medical system that includes treatment for patient input / output, angle measurement, elbow flexion and extension.

References

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