慶應義塾大学学術情報リポジトリ
Keio Associated Repository of Academic resouces

Title	Electromyographic study of movements in kendo (part I) : on applied skills, especially on "suriage waza"
Sub Title	
Author	福本, 修二(Fukumoto, Shuji)
Publisher	慶應義塾大学体育研究所
Publication year	1980
Jtitle	体育研究所紀要 (Bulletin of the institute of physical education, Keio university). Vol.20, No.1 (1980. 12) ,p.97- 98
JaLC DOI	
Abstract	
Notes	Abstract
Genre	
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00135710-00200001-0097

慶應義塾大学学術情報リポジトリ(KOARA)に掲載されているコンテンツの著作権は、それぞれの著作者、学会または出版社/発行者に帰属し、その権利は著作権法によって保護されています。引用にあたっては、著作権法を遵守してご利用ください。

The copyrights of content available on the KeiO Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.

Electromyographic Study of Movements in *Kendō* (Part I)

—— On Applied Skills, Especially on "*suriage waza*" ——

By *Shuji Fukumoto**

Purpose:

Studies were made of applied skills in *kendō*, especially on "*suriage waza* (parrying skill)." As to with what muscular actions "parrying" was made, and as to how effectively "*suriage waza*" were exhibited, studies were made using the electromyographic method (surface electrodes method).

Results:

The results of the collective studies of both *Men* (basic frontal attacks) and "*Men-suriage-Men*" are as described below.

In the case of the *Men*, a state of electric discharging was seen chiefly when the attack was made, and after the attack was made, a tendency—a gradual lossening of the muscular strain—was noted. For *Men*, as the arms were raised high and they were brought down, the group of flexor muscles preceded, and considerably large electric discharging was noted, this probably was because that the arms-raising action and the arms-bringing down action were made as a single continued action.

In the case of "*Men-suriage-Men*", electric discharging was noted between the time when the "*suriage*" motion was made and the time when the attacking motion was made. Thereafter, a tendency of the prompt loosening of the strain on the muscles was seen. Also, in the case of "*Men-suriage-Men*", contrary to the case of *Men*, the group of extensors exhibited a state of discharging in a large scale. This is because that as the opponent's *shinai* (bamboo sword) was parried when he was going to make a *Men*, the flexor muscles were used just for changing the direction of the opponent's *shinai*; for raising the arms, there was no need to use the strong muscles which were used for making *Men*. Controrily however, as momentary

* Assistant Professor of the Institute of Physical Education, Keio University.

strength was used for making *Men,* considerably large discharging was noted on the extensors.

Conclusion:

So far, it has been considered ideal that when *"Men-suriage-Men"* are made, no large strength should be used for parrying the opponent's *shinai,* and when *Men* are made, such attacks should be made with momentarily large strength. In this study, it was proved that in the case when "parrying" of attacks were made, the flexor muscles were used just for changing the direction of the opponent's *shinai,* while when attacks were made, the momentarily large strength was given to the extensors. These are considered efficient motions.