

STUDIES ON "KANSETSU-WAZA"

(1) Introduction of "Kansetsu-waza"

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There are innumerable "waza" (techniques) in Judo, however, they may be generally classified into the "Nage-waza" (throwing technique), the "Katame-waza" (grappling technique), and the "Atemi-waza" (art of attacking vital points). By means of the "Nage-waza", one throws his opponent; by means of the "Katame-waza" one holds down his opponent, and to this latter group of techniques belong the "Shime-waza" (stranglehold) and the "Kansetsu-waza" (bone-lock); by means of the "Atemi-waza" one strikes, thrusts or kicks his opponent's vital points.

The "Kansetsu-waza" which belongs to the "Katame-waza" group of techniques is a technique by which a joint of the opponent is extended, flexed, supinated, or pronated beyond the range of its normal movability, thereby restraining the opponent. The primitive form of "Kansetsu-waza" was already known in the seventeenth century, and was practiced as one of the techniques of Jujutsu, the prototype of Judo, after which it gradually evolved and became systematized into the present day form of the "Kansetsu-waza".

Restrictions on Certain Forms of "Kansetsu-waza" During a Tournament

Judo is at present practiced all over the world, however, there are certain restrictions in regard to the techniques which may be used in a tournament. For example, the "Atemi-waza", "Shime-waza", excepting "Kubi-shime" (strangling the neck), and the "Kansetsu-waza", excepting those applied on the elbow are strictly forbidden. Therefore, during the "Randori" (free exercise) or during a tournament the techniques that may be used are the "Osae-waza" (art of holding), the "Shime-waza" of the neck, and the "Kansetsu-waza" of the elbow. These techniques are generally referred to as the "Randori-waza" (free exercise techniques).

Aside from the "Kansetsu-waza" applied to the elbow, there are "Kansetsu-waza" which are applied to the neck, ankle, wrist, and fingers, however, as already mentioned, only the "Kansetsu-waza" which are applied to the elbow are permissible during a Judo tournament for reasons of safety. Techniques which are forbidden during a tournament or "Randori" are taught in the "Kata" (a formal system of prearranged exercise).

The elbow joint is formed by the junction of the ulna, radius, and the humerus. The ulna and the humerus are capable of flexion and extension within 150°. Between the ulna and the radius, supination and pronation are generally possible within 180°. The movements are produced by groups of strong muscles which act antagonistically to one another, and when the "Kansetsu-waza" is applied to the elbow forcing flexion or extension beyond the normal scope of movability, it naturally follows that strong resistance by these muscles are encountered. In the "Kansetsu-waza" of the elbow, as compared to that of the other joints, there is more time for the "Uke" (one on whom the technique is applied, victim) to defend himself. Also, the pain

which the "Uke" feels in the elbow acts as a danger signal and prompts the "Uke" to give a prearranged sign to the "Tori" (one who performs the technique) to release his hold, thereby obviating injury to the joint. By means of proper training and practice the "Tori" is able to control the force applied to the elbow of the "Uke", who also by proper training and practice is able to give the signal indicating "I surrender" just in time to prevent injury to the elbow. Even if the signal "I surrender" were given somewhat later than should have been given, and the "Kansetsu-waza" took effect more than was necessary, the damage to the elbow joint would be comparatively slight, and the prognosis would be better than a damage to some other joint of the body. For these reasons, the elbow "Kansetsu-waza" is permitted to those who are already considerably well trained.

The Importance and Exquisiteness of the Elbow "Kansetsu-waza"

The various forms of "Kansetsu-waza" are practiced in the "Kata", however, the elbow "Kansetsu-waza" exceeds all other forms in the amount of practice and importance put into it. Furthermore, the elbow "Kansetsu-waza" is practiced in the "Randori" and is considered an important form of attack. Consequently, this form of "Kansetsu-waza" is the most widely practiced and has been the object of considerable research. During the "Randori" or during a tournament, the main thing is to either throw or hold down one's opponent, and in order to restrain one's opponent the "Osae-waza", "Shime-waza", and "Kansetsu-waza" are in turn freely used. When the opponent is thrown down by the "Nage-waza" the "Tori" performs the "Ne-waza" (a form of "Osae-waza" applied in a lying position) and pins down the opponent. However, depending on the situation and relative positions of the "Tori" and the "Uke", the former may shift his technique to the "Kansetsu-waza" or to the "Shime-waza", or even shift from the "Kansetsu-waza" to the "Osae-waza".

The elbow "Kansetsu-waza" is at present well established and is an indispensable technique in Judo. The exquisiteness of the elbow "Kansetsu-waza" consists in its ease and rapidity to take effect. This is because the principle of the technique consists in attacking the physiologically weak point of the joint. No matter how superior in strength the opponent may be, by utilizing the opponent's strength or by making it ineffective, one is able to rapidly avail oneself of the opponent's weak point, and completely overcome him. Because of the ease and rapidity with which it takes effect the elbow "Kansetsu-waza" is indeed a superb technique. The "Kansetsu-waza" is very little influenced by physical fitness, and is prone to be developed intellectually. It also has a wide age range, i. e., it can be applied even by quite elderly people, and the more one practices and masters the "Kansetsu-waza" the more interest he will find in this subtle technique.

The Fundamental Principles of the Elbow "Kansetsu-waza"

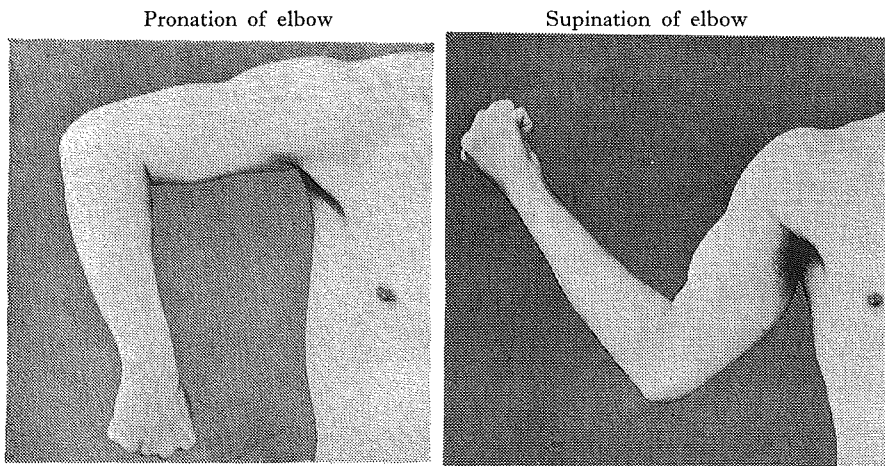
There are two forms of the elbow "Kansetsu-waza", one form consists in hyperextending the elbow, and the other consists in twisting the elbow.

What is the underlying mechanism involved in this technique which takes advantage of the physiological weak points of the joint? We shall first consider the anatomy of the elbow joint. This joint is formed by the humerus, ulna and radius. Extension and flexion of the joint are possible around the transverse axis of the trochlea of the humerus. The radius revolves around its axis and in contact with the capitulum. When the arm is extended fully, the long

axis of the upper arm and that of the forearm do not form one straight line, but curves outwardly from the elbow at an angle of approximately 8.5° , in the male. A forcible eversion beyond this angle is unphysiological and produces pain in the joint, and if the process is furthered may eventually sprain the joint or even cause dislocation or fracture. Fundamentally, the principle of the "Kansetsu-waza" consists in bringing the elbow of the opponent into this unphysiological condition. In the process, naturally, strong resistance of the opponent is encountered, however, this is eliminated by the "Tori" by skillful utilization of strength and movement based on the principles of dynamics.

The elbow "Kansetsu-waza" in which the elbow is hyperextended may be classified as the "Ude-hishigi-ude-gatame", and "Ude-hishigi-hiza-gatame. Aside from these the "Ude-hishigi-waki-gatame" and "Ude-hishigi-hara-gatame" may be classified as belonging to this group of "Kansetsu-waza".

We shall now consider the principle underlying the "Kansetsu-waza" which consists in taking advantage of the weak points of supination and pronation of the elbow. Supination and pronation are performed between the radius and the ulna—the ulna is immovable and the radius by revolving around its axis crosses over the ulna. If supination or pronation of the elbow is forced beyond the physiological limit pain is produced, and when further continued may result in damage to the tissues.



The twisting "Kansetsu-waza" is generally applied with the opponent's elbow flexed. In this technique, the angles formed by the upper arm and the body, and also the forearm have a direct influence on the success of the technique, consequently, it is of utmost importance for the "Tori" to assume full control of the opponent's body and perform the technique efficiently with rapidity and precision. The representative technique belonging to this group of "Kansetsu-waza" is the "Ude-garami".

The Practice of the Elbow "Kansetsu-waza"

The elbow "Kansetsu-waza" may be generally classified into two big groups, one involving hyperextension of the elbow, and the other twisting of the elbow.

I. Technique in which the opponent's elbow is hyperextended.

1) "Ude-hishigi-juji-gatame" (Fig. 1).

The body of the "Tori" crosses over that of the "Uke", and the former with both hands

grasps the right (left) wrist of the "Uke" and fixes the "Uke's" arm with both thighs and thus hyperextends the "Uke's" elbow.

2) "Ude-hishigi-ude-gatame" (Fig. 2).

The "Tori" draws and fixes the "Uke's" left (right) wrist on his right (left) shoulder, and with both hands clasps the radial aspect of the "Uke's" left (right) elbow, and in this position, a downward pressure is applied to the "Uke's" elbow.

Fig. 1

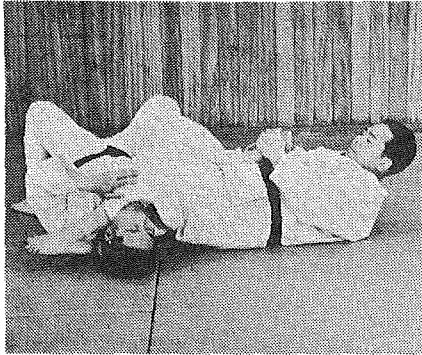
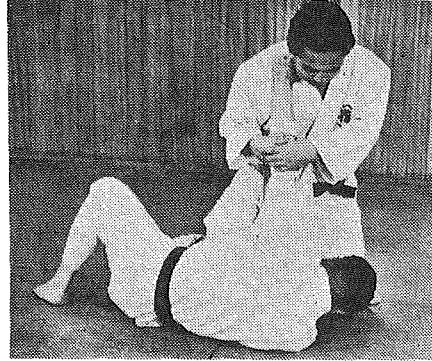


Fig. 2



3) "Ude-hishigi-hiza-gatame" (Fig. 3).

The "Tori" fixes the "Uke's" right (left) wrist under his left (right) armpit, and with his left (right) knee presses the "Uke's" right (left) elbow.

4) "Ude-hishigi-waki-gatame" (Fig. 4)

The "Tori" fixes the "Uke's" left (right) arm under his right (left) armpit, and holds the "Uke's" left (right) wrist with both hands and in this position lifts the left (right) wrist of the "Uke".

Fig. 3

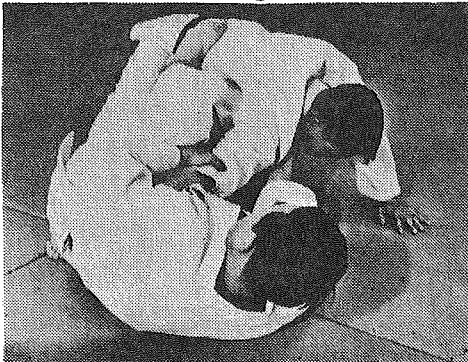
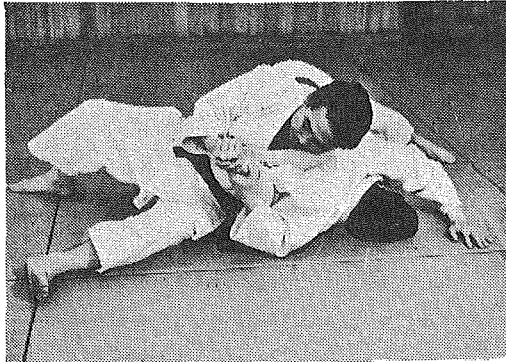


Fig. 4



5) "Ude-hishigi-hara-gatame" (Fig. 5)

The "Tori" fixes the "Uke's" left (right) arm on his lower abdomen, and lowering his body assumes a "Jigo-tai" posture (defensive posture), and thus applies pressure to the left (right) elbow of the "Uke".

II. Technique in which the opponent's elbow is twisted.

6) "Ude-garami" (Supination of the forearm). (Fig. 6)

The "Tori" holds the "Uke's" left (right) wrist with his left (right) hand, and thrusts his right (left) forearm from under the "Uke's" left (right) upper arm and thus clasps his own left (right) wrist with his right (left) hand. Thus he fixes the "Uke's" right (left) wrist with his left

(right) hand, and while doing this he lifts the "Uke's" left (right) arm with his right (left) forearm, thus twisting the "Uke's" left (right) elbow.

2) "Ude-garami" (Pronation of the forearm). (Fig. 7)

The "Tori" holds the "Uke's" left (right) wrist with his right (left) hand and thrusts his left (right) forearm from the direction of the "Uke's" left (right) shoulder and grasps his own right (left) wrist with his left (right) hand, and with his left (right) elbow pushes up the "Uke's" left (right) elbow, thus twisting it.

Fig. 5

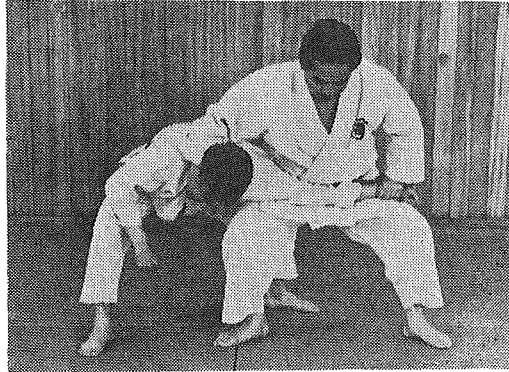
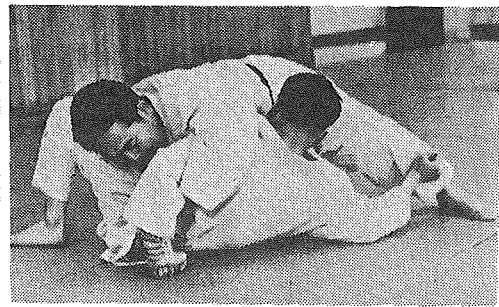
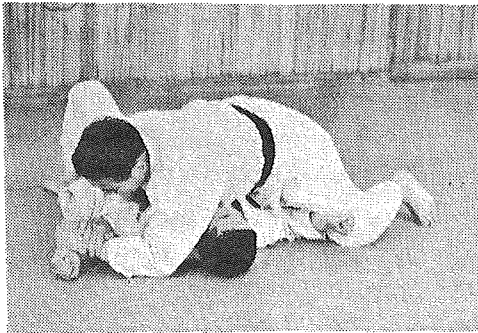


Fig. 6

Fig. 7



The "Kansetsu-waza" Studied in the Present Investigation

The following forms of "Kansetsu-waza" were studied in the present investigation: Two forms of "Ude-hishigi-juji-gatame" in which the elbow of the opponent is hyperextended, and two forms of "Ude-garami" in which the forearm of the opponent is twisted.

Method 1. (Fig. 8) The "Ude-hishigi-juji-gatame" in which the elbow of the opponent is hyperextended was simulated in the laboratory. The experimental subject was made to lie down in a supine position with the right arm abducted at right angles to his body and with a pillow placed under his elbow. The performer of the technique then pulled and pushed down the arm, thus hyperextending the elbow. In this method the palm of the experimental subject was facing up.

Method 2. (Fig. 9) The only difference between this method and Method 1 was that in this method the thumb of the experimental subject was pointing up.

Fig. 8

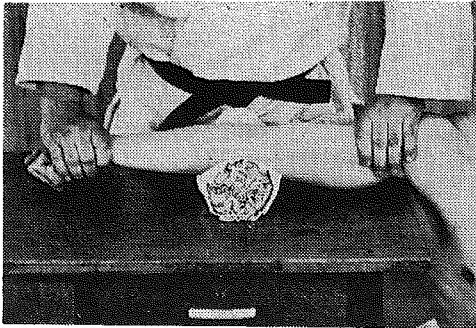
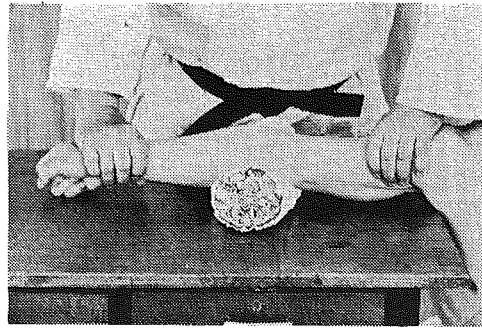


Fig. 9



Method 3. The "Ude-garami" in which the forearm of the opponent is supinated was simulated in the laboratory. The experimental subject was made to lie in a supine position with his right arm abducted and flexed at right angles at the elbow, so that the right wrist was at the same height as the right shoulder. The performer of the technique grasped the right wrist of the experimental subject with his left hand, and with his right hand pushed up the experimental subject's right elbow, and at the same time decreased the degree of flexion of the experimental subject's right elbow with his left hand and, thus twisted the elbow.

Method 4. The "Ude-garami" in which the forearm of the opponent is supinated was simulated in the laboratory. The experimental subject was made to lie in a supine position with his arm abducted and with his elbow flexed at right angles so that his wrist came near his belt. The performer of the technique grasped the right wrist of the experimental subject with his right hand and with his left hand pushed up the right elbow of the experimental subject. Then with his right hand pushed the right wrist of the experimental subject toward the latter's body, thus twisting the latter's elbow.

Fig. 10

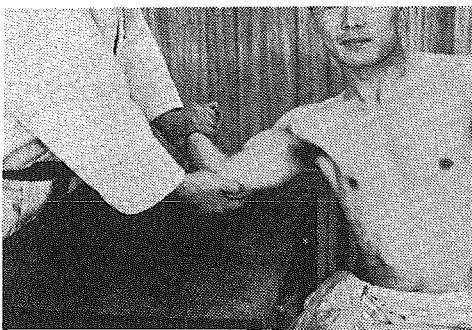


Fig. 11

