

Analysis and Practical Implications of Various Types of Motions in Taekwon-Do Patterns

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Taekwon-Do Roots

Taekwon-Do originated in the 1940s but has continued to develop throughout the 20th and 21st centuries. The foundation of this Martial Art is rooted in the Shotokan style of Karate, the traditional Japanese martial art, which Taekwon-Do founder, General Choi Hong Hi studied before developing what eventually became Taekwon-Do, the Korean martial art.

Taekwon-Do's development coincides with the period Gen. Choi spent in the army as a Korean Army career officer.

Historically, the period of the '40s, '50s, and '60s of the 20th century faced some of the most violent military conflicts known in human history. Korea specifically found itself to be in the middle of three major confrontations for most of the first half of the 20th century: the Japanese occupation and World War II, the Korean War, and finally; the Vietnam War.

Korea and the Korean Army have extensive experience in battlefield fighting, including man-to-man close combat. It is also a known fact that the army

personnel under Choi Hong Hi's leadership were among the first practitioners of the newly developing martial art.

These conditions allow the assumption that the practical self-defense and real-world combat applications of these techniques were paramount for the practitioners of this young martial art.

Civilian dojangs, competition rules, and tournament judging systems appeared in later phases of Taekwon-Do's development. This facilitated the popularization of the art throughout the World and paved the road for civilians to become a driving force to spread and teach Taekwon-Do.

In 1964, the Korean Athletic Union officially recognized Taekwon-Do as a national event with seven weight categories.¹ Thus began the global evolution of Taekwon-Do as a sport to be practiced for reasons other than combat purposes.

As such, the techniques of Taekwon-Do went through many modifications and changes over the following decades.

Science and Taekwon-Do

There is very little evidence to support claims that original Taekwon-Do instructors were developing and improving techniques based on any scientific formulas. However, modern human biomechanical science indicates a strong correlation between the physiological and biomechanical principles and the directions in which Taekwon-Do techniques developed over time.

Being left with no written scientific papers from the beginning of Taekwon-Do development, we must apply the remainder of Gen Choi's teaching and common

¹ [The History and Facts of Taekwon-do - Taekwon-do International \(tkdunion.org\)](http://tkdunion.org)

sense as the guide in our understanding, applications, and teaching of the traditional Taekwon-Do techniques.

Therefore, two major areas of focus regarding the technical analysis should include:

- the military/real-life combat approach.
- human biomechanics and physiology.

The Area of Analysis

The focus of this text is on the multiple technique combinations included in Taekwon-Do patterns, from a practical and scientific perspective.

The latest Taekwon-Do publications list the following types of motions:

- continuous motion
- fast motion
- connecting motion
- releasing motion
- quick motion
- slow motion

The remaining type of motion, a basic form of moving from one technique to the following, is referred commonly to as “normal motion” and is the most often occurring “motion” in the patterns.

The “normal motion” is executed with the full cycle of relaxation, preparation, and execution in conjunction with appropriate breath control and is intended for a single technique execution and not as a combined action of multiple techniques.

For the purpose of this text, we will use the “normal motion” as the reference point.

I am going to ignore the releasing motion, quick motion, and slow-motion as they refer to a single technique execution and I will focus on the first three which are describing combinations of multiple (2-7 movements) techniques, rather than individual techniques, or movements between the techniques.

Before we analyze these three types of motions, it is worth mentioning the rules which guide the Taekwon-Do movements’ characteristics and which General Choi presented in his book as training secrets.

Power Generating Guidelines

The Training Secrets mentioned in the latest edition of the Encyclopedia are:

- 1) To study the theory of power thoroughly.
- 2) To understand the purpose and method of each movement clearly.
- 3) To bring the action of eyes, hands, feet, and breath into one single coordinated action.
- 4) To choose the appropriate attacking tool for each vital spot.
- 5) To become familiar with the correct angle and distance for attack and defense.
- 6) Keep both the arms and legs bent slightly while movement is in motion.
- 7) All movements must begin with a backward motion with very few exceptions. However, once the movement is in motion it should not be stopped before reaching the target.
- 8) To create a sine wave during the movement by utilizing the knee spring properly.

9) To exhale briefly at the moment of each blow except for a connecting motion.

The training secrets were also absent from the early Choi Hong Hi's publications of Taekwon-Do Manuals.

For our analysis, points 7 and 9 are the most important. In the literature, these training secrets appeared at the same time as the concept of the sine wave, which was absent initially from Taekwon-Do movement principles.

Before the sine wave...

General Choi's introduction of the sine wave coincided with the modification and development of the different motions.

Initially, the manuals from the '60s mention only:

- normal motion
- fast motion, and
- slow motion

The normal motion referred to a single action technique, while the fast motion described combinations or sequences of attacks, blocks, or counterattacks.

The normal motion and the slow motion have remained unchanged. However, fast motion and continuous motion emerged and split from the original version of fast motion.

The sine wave changed the way the techniques were prepared and executed so that relaxation and backward movement became necessary to perform techniques according to the new standards.

These additions made it no longer possible to produce techniques from the dead-stop end position of the previous technique as the backward movement must begin from a more relaxed, neutral (reset) position, instead of the stiff "fist-on-the-hips" and the other at the final position of the previous technique.

In pre-sine wave times, any technique could have been executed from a dead-stop position regardless of where hands have been at the end of the previous technique.

The introduction of the sine wave created the need for a new category of motion, that is continuous motion.

With the introduction of the sine wave, hand techniques required the whole additional movement in the opposite direction that the technique itself. Hence the name “backward motion”. This way the end position of the previous technique didn’t allow for creating the combinations without breaching the “Training Secrets” unless the counter movement, that is the movement of the opposite to the technique executing hand could become the backward movement of the following technique.

Remembering the practical application principles of the Taekwon-Do techniques, we must consider that a single, separated technique may not be very effective, as real combat also relies on combinations of attacks as well as blocks and counterattacks.

These combinations are when we find the use of the previously used fast motion. Fast motion attacks would have to be defended by fast motion blocks or blocks and counterattacks.

Before the sine wave was incorporated into the techniques, one type of combination was enough to handle all the sequences, by simply executing them in a series of movements at a faster pace without compromising the technical correctness.

The introduction of the sine wave and backward motion has changed how the techniques were prepared. In some cases, it demanded an additional movement to be able to perform a technique with a correct backward motion, as required by the “Training Secrets”. Otherwise, the principles of power generation would be inexecutable.

The Analysis

To illustrate this notion, let us analyze four examples of combinations with the sine wave and without:

Example 1: Attack of the two punches: gunnun sogi kaunde baro and bandae jirugi.

Example 2: Impact (hard) block and counterattack: nopunde baro yop makgi followed by bandae jirugi (by the other hand).

Example 3: Two impact (hard) blocks: gunnun so najunde palmok makgi and chookyo palmok makgi.

Example 4: Soft block and the counter strike: sonbadak duro makgi and jirugi by the other hand

Without sine-wave, any two techniques can be easily executed one after another one, because the end position of the first technique can easily become the beginning position of the second punch. No sine wave nor backward motion were needed, regardless of whether this would be a combination of 2 single punches or a combination of blocks. We would just swiftly set for the second technique without the need to relax or begin it with the backward motion.

With the sine-wave, the situation is changing. If we are to execute two single punches, the training secrets require us “not to stop the movement” once they have been started. In the case when the first technique is a punch or a single-hand block, the countermovement of the other hand can act as the backward movement of the following punch. This allows for the fast execution of two techniques without breaching the principles of the “training secrets”. It also permits the correct execution without a need for a relaxing part of the technique. This situation takes place when we execute, for instance, two consecutive punches or a block with one hand and the punch with the other hand.

However, if the second technique requires a different directional movement of the blocking or striking hand during the backward motion, other than the countermovement of the first technique, it cannot be prepared from the end position of the first technique without breaching

the “training secrets” principles. It needs a neutral (reset) position in between. For example, when two blocks are performed by the same hand, or a second technique’s backward motion moves at a different trajectory than the counter motion of the first technique.

This condition seemed to conceive the need for a separate type of movement: “a continuous motion”. The reset position needs to be neutral enough to be able to prepare any other technique with either the same or the other hand. This is commonly referred to as a relaxing position.

In real combat, from a practical perspective, we can plan a series of attacks or counterattacks, but we are unable to plan precise blocks as they are a reaction to the attacks rather than planned actions.

Psychologically, a relaxing hands position is a wary posture for when the defending person might not know exactly what the following attacking technique will be, as in real combat. Therefore, it is a type of ready position that enables backward motion preparation for any technique.

The second element to analyze is the breath control during these types of movements.

Knowing our intentions we can foresee the breathing demand of our attacks, therefore controlling the inhale and exhale of each technique.

In a situation when we are defending against a series of unpredictable attacks, we cannot know the breathing demand of the sequence of blocks to come. Nonetheless, each technique requires exhalation to generate sufficient power as stated in the training secrets.

Taekwon-Do techniques, which produce an impact result, must be accompanied by a sharp exhale. This exhale is caused by the tension of the diaphragm and the muscular contraction of the body. This principle must not be compromised if we are to focus on producing truly maximum power.

None of the types of motions that include impact can disregard the tension and the sharp exhale. This also aligns very well with the physiological properties of breathing when exhaling is associated with the intraabdominal cavity tension.

Inhalation, on the contrary, requires muscle relaxation. Keeping these physiological relationships between breathing and tension, the psychological determinants of a real battle, and the Taekwon-Do Training Secrets we can conclude that:

1. All the impact techniques must end with the exhale, regardless of the motion type.
2. Fast motion techniques are typically sequences of a block and counterattacks, therefore as being planned, allow inhalation before each technique.
3. Continuous motion techniques should be executed without inhaling in between, due to their reactive (surprising) nature. However, since the defense is a reaction and not a planned action, the defendant's side must not "waste" the air on an exhale in between the blocks.
4. Connecting motion combines soft techniques which do not require sharp exhale and do not benefit from the downward phase of the sine wave, as the mass and the total body tension don't play an important role in the effectiveness of this type of technique. However, it does use the countermotion of the other hand as a backward motion for the next technique, usually a punch as a counter strike. Therefore, both techniques can be executed during one long exhale with the sharp accent on the end strike, as the impact technique.

From this perspective, when teaching the various types of motion, we should place an equally important emphasis on breath and the role of the counter/backward motion.

It is especially important to remember that breath is an essential element in executing the correct technique and ensuring sufficient oxygen supply and tension for the techniques. We should remember that blocking is an unplanned reaction and to remain effective we should preserve as much oxygen in the lungs as possible as we need this air for each of the blocks in a sequence. For that, we must limit the exhale only to the actual technique's final impact moment. Any "leak" of the air in between will lower our ability to deliver impactful and effective blocks within the continuous motion sequence.

An example of a physiologically and realistically illogical approach, seen often performed by athletes in competition is a 7-continuous motion sequence in Po Eun Tul.

Executing seven techniques in a row with power and accuracy requires preserving as much air in the lungs as possible to be able to exhale sharply at each impact. Allowing for the air to flow out in between the techniques would be an unnecessary waste of resources which, in a real-life situation could be life-threatening.

Conclusion

We, as Taekwon-Do teachers and practitioners are quite proud of our traditions and fundamentals as well as our beautiful, powerful, and dynamic patterns. However, the recent competitive approach promotes avoiding points deductions rather than performing techniques with maximum and realistic power.

This has negatively compromised the application of truly powerful techniques. It has also tarnished the integrity of Gen. Choi Hong Hi's original vision of the patterns being "performed with realism."

Continuous motion techniques are limited to a change in the breathing sound rather than displaying a realistic approach and understanding of the reasons and purposes of each movement.

Athletes care less about the reality of the art and more focus on the presentation of their acrobatic proficiency.

We must not forget, where Taekwon-Do comes from. It was a deadly weapon in the hands of real soldiers and we, as teachers should remain aware of its true nature as a martial art.