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## **ON THE ANALYSIS OF BACKHAND ATTACKING TACTICS OF WORLD FAMOUS MALE SHAKEHANDS GRIP PLAYERS**

### **Abstract**

*Through the analysis and statistics of the backhand attacking play of world famous male shakehands grip players, this paper summarizes some of the common and disciplinary issues and investigates the ongoing trends of shakehands grip backhand attacking tactics, and supplies reference for the further developments. Methods applied are the methods of literature review, video, statistics, segmental index evaluation, percentage analysis, single attack analysis and logic analysis.*

**Key words:** *shakehands grip; backhand attacking play; service combat state; receiving combat state; deadlock combat state.*

In recent years, the ITTF has refined the table tennis game regulations three times in succession, including that the ball should be 40 millimeter in diameter, a game shall be won by the player or pair first scoring 11 points and the ball shall not be hidden from the receiver by the server or his doubles partner or by anything they wear or carry. These new regulations not only helps to speed up the tempo and add intensity to confrontations, but also brings new reformation trends, which still favor the trends of being active, having outstanding specialty, all-round skills, and no obvious defect. Shakehands grip attacking play is maturing and governing today, and the backhand attacking tactics is crucial to the combat of the first three balls, to the switches of attack and defense and to the final victory. So shakehands grip attacking play must be kept up with the new developments in tactics and skills.

Through the analysis and statistics of the backhand attacking play of world top male shakehands grip players, this paper summarizes some of the common and disciplinary issues and investigate the ongoing trends of shakehands grip backhand attacking tactics, and supply reference for the further developments. Methods applied are the methods of literature review, video, statistics, segmental index evaluation, percentage analysis, single attack analysis and logic analysis.

### **1. Research Goals and Research Methods**

#### **1.1 Research Goals**

Wang Liqin, Timo Boll, Vladimir Samsonov, Chen Qi and Kalinikos Kreanga

#### **1.2 Research Methods**

##### **1.2.1 Literature Review**

A large number of literatures on table tennis backhand attacking play were studied.

##### **1.2.2 Video Review**

The performances of the players mentioned above in the 28th Olympic Games, the 48th WTC and other ITTF level-A events were observed and worked out on the basis of videos.

### 1.2.3 Single Play Analysis

The scores, defaults, neutral balls and other backhand skills of backhand attacking players were studied by three successive time periods, i.e. serving and attack period, receiving and attack period and rallies period. The rate of offensive balls, scores, defaults, neutral balls and net scores of the backhand attacking play in these periods are calculated.

Rate of offensive balls= (scores+ defaults+ neutral balls) / (scores+ defaults+ neutral balls+ other backhand skills) × 100%

Rate of scores= scores/ (scores+ defaults+ neutral balls) × 100%

Rate of defaults= defaults/ (scores+ defaults+ neutral balls) × 100%

Rate of neutral balls= neutral balls/ (scores+ defaults+ neutral balls) × 100%

Rate of net scores= rate of scores – rate of defaults

### 1.2.4 Logical Analysis

The application of logic theories makes the research systematic and theoretical.

## 2. Research Results and Analysis

### 2.1 Analysis of Backhand Attacking Play of World Top Male Shakehands Grip Players

#### 2.1.1 Analysis of Backhand Attacking Play of Wang Liqin

Chinese player Wang Liqin, champion of man's singles and man's team in the 48<sup>th</sup> WTC, is a right-handed shakehands grip player, excelled in loops and surprise attacks.

Table 1 Analysis of Backhand Attacking Play of Wang Liqin

	Rate of offensive balls	Rate of scores	Rate of defaults	Rate of neutral balls	Rate of net scores
Serving and attack	70	31	17	53	14
Receiving and attack	79	29	16	55	13
Rallies	53	24	43	34	-19

From table 1, the rate of offensive balls in Wang's backhand play in serving and attack period is 70%, that in receiving and attack period is 79%, showing that Wang's backhand play in the first 4 balls is very active. Wang's rate of scores in serving and attack period is 31% and in receiving and attack period is 29%, along with a low rate of defaults, which in serving and attack period is 17% and in receiving and attack period is 16%. Statistics show that in the first 4 balls, Wang's backhand attack is active but not fierce and he is more likely to lead up to use offensive balls before the opponent, and this is why there are not so many direct scores and defaults, and a larger half of balls go into rallies period, which in serving and attack period is 53% and in receiving and attack period is 55%. According to videos, Wang prefers to use stirring-ups, twistings and drives when receiving backspins in his backhand attacking play. When returning the opponent's offensive balls, if they have low quality, Wang would like to drive the drives with backhand; if they have high speed and quality, Wang will quickly block the balls with backhand, which usually leads to direct scores due to their agile tracks, high speed and strength. Even when failing to win the point directly, Wang can lead into rallies period. One of Wang's frequently used plays is to firstly block the ball in straight line with backhand, then push or drive the ball with forehand.

In rallies period, Wang has the highest default rate (43%). According to videos, when his offensive balls in the first 4 balls haven't high qualities, his opponent will drive his

drives or block his blocks and lead into rallies state, in which Wang's backhand defense is the weakest link. In rallies, Wang can confront his opponent in rallies with drives well, but lack sustainable ability. When his backhand attack is limited and cannot switch to forehand attack, his rate of scores is low (24%).

Wang should strengthen his backhand attack in the first 4 balls and the backhand ability of switch between attacks and defenses in rallies, together with the middle and backcourt strength.

### 2.1.2 Analysis of Backhand Attacking Play of Timo Boll

German player Timo Boll, world rating No. 2, is a left-handed Shakehands grip player, excelled in loops.

Table 2 Analysis of Backhand Attacking Play of Timo Boll

	Rate of offensive balls	Rate of scores	Rate of defaults	Rate of neutral balls	Rate of net scores
Serving and attack	94	22	28	50	-6
Receiving and attack	88	28	32	40	-4
Rallies	42	24	45	31	-21

From table 2, the rate of offensive balls in Boll's backhand play in serving and attack period is 94%, that in receiving and attack period is 88%, the highest among the 5 players studied in this paper. According to videos, Boll prefers to actively shot offensive balls once possible. Generally speaking, except the medium-high balls, he prefers to shot lobs or drive loops diagonally so as to easily make topspin rallies within court and prepare for rallies period. Boll is excelled in the combination of firstly spinning the ball and then accelerating the ball, with firstly shooting to the right court and then pushing down to the left court. In rallies, Boll's backhanded accelerated half-off court balls and skills of driving the drives and tearing the tears are maturing; his switch of backhand and forehand skills in drives and pushes are fluent. His topspin confrontation is the most important pillar of his skills.

Boll's switch of backhand and forehand play, backhand tearing, quick driving and diagonally shot angled returning can make good preparation of forehand attacks. But his direct points winning skills, like backhand successive attacks and back court returning, still need improving. Through the rates of net scores in three periods are negative, his backhand play is strong and all-sided, excelled in tearing, leading, pushing and lobs. He is good at closing over the off court balls and he can directly put on strength to backhand attacks. According to videos, his hand position is high, and he can shoot the ball earlier; his actions aren't straightforward, there are also transverse actions. He strikes the racket more to the left, so he needn't make loops actively and he returns the ball quickly and lowly, killing some of the spins. It is a breakthrough that Boll can use backhand to counterattack and drive the topspin drives in close and middle court, as this means there will be no dead angle in topspins.

### 2.1.3 Analysis of Backhand Attacking Play of Vladimir Samsonov

White Russian player Vladimir Samsonov is an all-sided right-handed shakehands grip player, using loops with surprise attack.

Table 3 Analysis of Backhand Attacking Play of Vladimir Samsonov

	Rate of offensive balls	Rate of scores	Rate of defaults	Rate of neutral balls	Rate of net scores
Serving and attack	93	21	18	61	3
Receiving and attack	69	24	22	55	2
Rallies	50	24	43	34	-19

From table 3, in serving and attack period, Samsonov's rate of offensive balls is high (93%), showing that his backhand attack is active in this period. The rate of offensive balls in receiving and attack period is lower (69%), showing that in this period, he is not so eager to shot offensive balls, but prefers to take active control first. His backhand skills like backhand short stirring up and long drives are excellent instead of fierce, as a result, most balls go into rallies and the rates of direct scores in serving and attack (3%) and receiving and attack (2%) are the lowest among the five. So his backhand attacking play is not outstanding, though no obvious flaw.

In rallies, Samsonov's backhand confronting ability is very strong. Though his rate of defaults (43%) is highest and the rate of net scores (-19%) is the lowest, his rate of scores (24%) is the highest. According to videos, his forehand defense in middle-close court is weak, but the speed of backhand block is high. His defensive backhand skill is outstanding, after backhand returning, he often actively shoots successive attacks in a sidled position. While in equipollent confrontation, his backhand and forehand attacks are outstanding with an agile track in which he often leads the drive-drive rallies and switch to the opponent's forehand position.

#### 2.1.4 Analysis of Backhand Attacking Play of Chen Qi

Chinese outstanding young player Chen Qi, left-handed shakehands grip, favors loops with surprise attack. He is the champion of the Athens Olympics table tennis man's doubles and the champion of the 48<sup>th</sup> WTC man's teams.

Table 4 Analysis of Backhand Attacking Play of Chen Qi

	Rate of offensive balls	Rate of scores	Rate of defaults	Rate of neutral balls	Rate of net scores
Serving and attack	85	26	12	62	14
Receiving and attack	76	27	36	37	-9
Rallies	51	23	47	30	-24

From table 4, the rate of offensive balls in Chen's backhand play in serving and attack period is 85%, showing that his backhand attack, especially backhanded drives and pushes in this period is fierce with a 14% rate of net scores as a result of his outstanding force, agile tracks and excellent serves. Chen's backhand attack in receiving and attack period is also fierce, having a high rate of scores at 27%. But his backhand rate of defaults (36%) in this period (36%) is much higher than that in serving and attack period (12%), two factors attributed to which are that his fierce returning leads to direct defaults and that when his opponent takes the control, Chen's transition between the second and fourth balls is weak, making a poorer defense ability in the fourth ball and a harder switch to attack from defense.

In rallies, the rate of scores rests with his performance of switch to attack from defense at a backhand position. In active rallies, the switch from backhanded drives and pushes to forehand attacks is excellent. After his powerful backhanded angle drives, he can frequently make forehand successive loops, which leads to a large control area, a strong middle-back court confrontation and powerful skills in driving backhand loops, though

sometimes his backhand position is also the goal of attack from his opponent when he is in passive rallies.

According to statistics, Chen's backhand play is still not stable. When his performance isn't satisfactory, there will be a large number of unnecessary defaults. So for Chen Qi, it is crucial to reduce the number of unnecessary defaults on the basis of keeping his fierceness and at the same time to improve his ability on actively switching from defense to attack.

### 2.1.5 Analysis of Backhand Attacking Play of Kalinikos Kreanga

Greek player Kalinikos Kreanga, right handed Shakehands grip, is good at loops with surprise attack. His backhand attacking play is outstanding among world players.

Table 5 Analysis of Backhand Attacking Play of Kalinikos Kreanga

	Rate of offensive balls	Rate of scores	Rate of defaults	Rate of neutral balls	Rate of net scores
Serving and attack	89	34	18	48	16
Receiving and attack	81	26	33	41	-7
Rallies	67	21	51	28	-30

From table 5, the rate of offensive balls in Kreanga's backhand play in serving and attack period is 89%, the rate of scores is 34% and the rate of net scores is 16%, showing a prominent performance in this period. According to videos, Kreanga prefers to shoot upside midmost shorts and forehand upside shorts in service. After serving, he likes to stand at the central front of the table so as to lead backhand attacks. When serving with backhand, he likes to stand at the right half of table so as to shoot shorts from his right side, which spin to the forehand position of his opponent's. This kind of service will set free a lot of space for backhand attacks, putting on more force to the offensive balls. The angle shots can often win points because Kreanga's backhand serving and attack is very fierce, quick-moving and powerful, after which he can quickly organize threatening attacks and make fluent transitions between the third and fifth balls.

In receiving and attack period, he also has active backhand attacks, as the rate of offensive balls is 81%. According to videos, when receiving shorts, he likes to twist and swing the balls, along with stirring up the balls backhandedly. Although the quality of his backhand stirring up is not so high, the returning of the fourth ball is quick; mainly using backhand counter-driving and counter-tearing and the track is angled. When blocking the opponent's attacks, he will shoot one backhanded straight humping ball. When receiving the opponent's long balls, he will drive and rush with backhand fiercely and decidedly, which often lead to unnecessary defaults. Besides, he is weak in receiving the half off-court and low spins, so the rate of defaults in this period (33%) is the highest.

In rallies, the rate of offensive balls is the highest (67%) among the five players. Kreanga's backhand confrontation ability is very high using a lot of counter rushing and counter driving, which is different from the other players who like to use forehand. He is able to put on force backhandedly from middle-back court and his loops are powerful. Once he catches his opponent's weaker force, wrong falling point and slower spin, he can often make his attacks in drive-drive confrontations and driving the drives. When defending his opponent's sided attack with backhand, Kreanga usually block his forehand position quickly, making his opponent unprepared. When facing the opponent's forehand and backhand attacks, he will drive back backhandedly to the opponent's backhand position, which often wins points. Backhand following sided forehand successive attacks are also efficient in winning points, though his rough forehand skills and defense and an easily agitated temperament have bad impact on him.

## 2. 2 A Synthesized Analysis on the Characteristics of Backhand Attacking Play of the Five Male Shakehands Grip Players

As the representatives of the most outstanding shakehands grip players in the world, the five players studied above, namely Wang Liqin, Timo Boll, Vladimir Samsonov, Chen Qi and Kalinikos Kreanga, have both similarities and specific features in their backhand attacking play.

Wang Liqin is an all-rounded backhand attacking player, excelled in the use of different backhand skills, like stirring up, twisting, driving, tearing, and pushing, and with no dead corner in full-table attacks. The purpose of his backhand attacks is to make preparation for forehand play by leading up the offensive balls. In rallies, Wang's backhand play is no worse than his opponents, to say nothing of the middle-back court confrontations. Though there are few "eruptive strikes", his quickness-ferocity balanced play, which has an outstanding forehand play, a backhand play that is no worse than anybody else, and powerful enough in-court balls, represents both the highest level of Chinese male table tennis players and the technical trend of world players.

When Boll backhandedly leads up offensive balls against backspins, he likes to drive accelerated loops, mostly with diagonal tracks, which shoot straight and are less threatening, but favor a quick switch between forehand and backhand successive attacks. In returning the opponent's offensive balls, Boll's backhand drives and tearing are powerful, and he is excelled in the combination of firstly spinning the ball and then accelerating the ball, with firstly shooting to the right court and then pushing down to the left court.

Samsonov's first offensive ball is not threatening, but shoot straight and with less defaults, leading to less point losing and top-quality successive attacks in the following period. He has a better backhand defense ability and an outstanding transformation from defense into attacks, in which when finding chances, he will quickly turn sideways, actively switch to forehand play and balance his forehand and backhand attacks.

Chen Qi tends to drive fiercely backhandedly, which usually adopts drives and rushing with great force, high speed and at the same time more defaults. In active and equipollent rallies, Chen's backhand play is fairly strong, being able to lead middle-close court drive-drive confrontations, and taking the advantage of his left-handedness, he drives tricky tracks, and after track changing, he can quickly turn sideways to successively drive the balls using forehand. But in passive rallies, his performance is not satisfactory, in which his backhand defense and the ability of transforming into attacks are to be improved.

From statistics, in the periods of serving and attack, receiving and attack and rallies, Kreanga favors the highest rate of the use of backhand attacking play and the highest rate of scores. Being regarded as having the best backhand skills, Kreanga excels in a fierce backhand attack, great force, and a good switch from defense to attack, and he can eruptively strike and drive at middle- back court, and even successfully perform counterdrives; while, his ferocity also results in unnecessary defaults. Backhand play is the core of everything for him. His relatively lower world rating among the five players studied here may result from the fact that he depends too much on backhand attacking play so that he lacks all-around skills and strong psychology. So even with the most outstanding backhand skills, if there are enough defects in other skills, it's hard for players to mount the peak of achievements in table tennis world.

The five players in this paper represent the highest level of world shakehands grip players. Their backhand attacking skills are used expertly, such as stirring up, twisting, driving, springing, arching, tearing and smashes, and the switch between forehand and backhand is fluent, eliminating the blind corner of their attacks. But the problems in the backhand defense and switch from defense to attack in rallies period are checked up and considered an urgent problem for shakehands grip players in the world.

### 3. Conclusions

3.1 The history of shakehands grip backhand attacking play originated in the 1950's, when European players began to favor attacks. With the over 10 years' continual explorations, in the 1970's, the European backhand loop drive tactics was led by the trends towards lob shot loops; until the end of the 1980's and the beginning of the 1990's, the backhand accelerated loop had become the most advanced backhand play; today, players add more innovations and a variety of backhand plays have been developed, i.e. stirring up, twisting, springing, tearing with backhand, driving with backhand and arching, etc.

3.2 Shakehands grip attacking play, represented by players like Wang Liqin, Timo Boll, Vladimir Samsonov, Chen Qi and Kalinikos Kreanga, has a variety of performances and features and problems as well. The common problems are that in the first four backhanded balls, they are very fierce, but the number of direct scores is not satisfactory, leading the strikes into rallies; the tactics combination most commonly applied is that firstly change the track of the ball with backhand and then follow successive forehand attacks.

3.3 Wang Liqin's switch of forehand and backhand play, Boll's backhand tearing and backhand topspin and Kreanga's backhand bursting forth at middle and back court and backhand driving have added vigor to the development of backhand shakehands grip attacking play, with the innovations and skills referred making the tactics more successful.

3.4 Today's table tennis game has become an all-sided confrontation; with attacks can be forehand and backhand, from backcourt, middle court and short court. Backhand attacking play helps a full court attack and an all-sided tactics.

3.5 Under the new regulations and new game system, Chinese shakehands grip players should strengthen the trainings on backhand attacking play abilities. Only on the basis of keep the advantage of forehand attacking play abilities, can these trainings help us to get ahead of our competitors.

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