

# Playing Pattern Analysis of Men's Single Badminton Matches

Mohd Fadhil Abdullah<sup>1\*</sup>, Mandra Janep<sup>1</sup>, Mohamad Shahrul Azzfar<sup>1</sup>, Zulakbal Abd Karim<sup>1</sup>,  
Azali Rahmat<sup>1</sup> & Ali Md Nadzalan<sup>1</sup>

<sup>1</sup>Faculty of Sports Science and Coaching, Universiti Pendidikan Sultan Idris, Tanjung Malim, Perak, Malaysia

\*Corresponding author E-mail: [ali.nadzalan@fsskj.upsi.edu.my](mailto:ali.nadzalan@fsskj.upsi.edu.my)

## Abstract

The objective of this study is to determine the playing pattern of selected men's single badminton matches during BWF World Championships 2017. Players' return methods; smash, drop, drive, lob, clear and net performed in the match were notated using notational analysis. The return methods were also analysed based on the place of target; fore left, fore right, mid left, mid right, rear left and rear right. The non-effective returns were also notated. The findings of the playing patterns performed by players are important as this can be used as a source of reference for the players to plan on technical and tactical part during the real match especially in important tournament.

**Keywords:** returns, badminton, jump, elite, playing patterns, game analysis.

## 1. Introduction

Previous studies have demonstrated the importance of match analysis in aiding the tactical, technical and training plan in sports [1-4]. Match analysis in sports will help to give information on the playing pattern, physiological and psychological stress of the performers.

Among the sports that continuing to get increase in interest around the world is badminton. Since its inclusion as an official sport in the 1992 Olympic Games in Barcelona, badminton has increased its popularity worldwide. Badminton is an intermittent sport characterized by multiple intense actions [5] including fast accelerations, decelerations and many explosive movements with changes of direction over short distances [6-9].

Playing patterns in badminton have been investigated in several previous studies [10, 11]. Due to its ability to help players to develop the technical, tactical and training plan, playing patterns analysis was thought as one of the methods that should be enhanced. It is the aim of this study to analyse the playing pattern during several selected men's single badminton matches during the previous BWF World Championships 2017.

## 2. Methodology

Several men's' single matches during BWF World Championships were obtained and were analysed by notational analysis. Players' return methods; smash, drop, drive, lob, clear and net performed in the match were notated using notational analysis. The return methods were also analysed based on the place of target; fore right, fore left, mid right, mid left, rear right and rear left. The smash, drop, drive, lob, clear and net that were not effective were also notated. The effective returns mean that the shuttlecock goes through the net and were in the court. Non-effective returns mean that either the shuttlecock do not pass the net or was out of court or the opponents got the point.

Smash is referred to as an offensive shot executed from the rear court. It travels downwards to the opponent's side. Drop is soft shot performed from the rear court. It travels down steeply and land at the opponent's forecourt. Fast drop shot referred to when the shuttlecock travels down steeply but lands further away from the net. Slow drop shot referred to shuttlecock that did not travel down steeply and lands nearer to the net. Both fast and slow drop shot were counted as drop shot. Drive is a basic flat shot, directly hit over the net. Drive is a powerful, quick counter-attacking shot. The racket should be held with the head facing straight ahead. Lob is normally be played from the forecourt in an underarm action. The aim is to lift the shuttle over the opponent and aim to make the shuttle land as near to the baseline as possible without hitting it out. Clear is referred to the shots made so that the shuttle goes up high in the air and land at the opponent's back court. Net is played in such a way that the shuttle tumbles and spins right above the net towards the opponent's side.

Figure 1 showed the position of returns in the analysis.

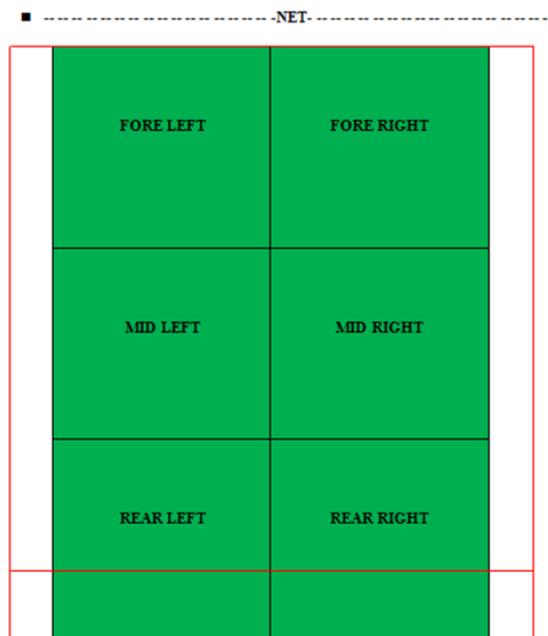


Fig. 1. Position in court

### 3. Results

Table 1 showed the effective return shots performed based on the position of return.

Return shots	Fore left	Fore right	Mid left	Mid right	Rear left	Rear right	Total
Smash	1 ± 0.7	1 ± 0.6	1 ± 0.5	2 ± 1.1	2 ± 0.8	4 ± 2.1	11 ± 2.6
Drop	0.3 ± 0.2	1 ± 0.2	0.4 ± 0.1	0.2 ± 0.1	0.1 ± 0.1	0.1 ± 0.1	2 ± 0.5
Drive	0.2 ± 0.1	0.1 ± 0.1	2 ± 0.8	0.1 ± 0.1	2 ± 0.8	0.2 ± 0.2	5 ± 1.2
Lob	1 ± 0.7	1 ± 0.8	1 ± 0.5	2 ± 1.3	1 ± 0.2	2 ± 0.3	8 ± 2.3
Clear	0 ± 0	0 ± 0	0 ± 0	0 ± 0	1 ± 1	1 ± 1	2 ± 1
Net	2 ± 1.2	7 ± 3.2	0 ± 0	0 ± 0	0 ± 0	0 ± 0	9 ± 3.6

Table 1: Effective return shots based on the position returns

Table 2 showed the non-effective return shots performed.

Return shots	Set 1	Set 2	Total
Smash	2 ± 1.1	3 ± 1.6	5 ± 2.1
Drop	2 ± 1.3	2 ± 1.7	4 ± 2.3
Drive	1 ± 0.6	1 ± 0.8	2 ± 1.2
Lob	1 ± 0.5	1 ± 0.8	2 ± 1.1
Clear	2 ± 1.4	1 ± 0.7	3 ± 1.4
Net	5 ± 3.4	3 ± 2.1	8 ± 3.8

Table 2: Non-effective returns shots

### 4. Discussions

This study aimed to determine the playing patterns of men's single badminton matches during BWF World Championships 2017. Effective and non-effective return shots were taken from the full matches and mean data were calculated. For the effective returns, the data were analysed in court position.

From the results obtained, we can see that most of the smash were attacked to the rear part of the court. This means that, players need to be quick to prepare for the smash especially if at that time; they are at the front part of the court. Looking at the videos more critically, opponents will first send the shuttlecock to the front so that the players go to the front. Then, the opponents performed smash that resulted the players unable to prepare to return the shuttlecock

back. Not so much drops were performed, but we can see through the videos that drop always been performed when the opponents are at the rear part of court. Other returns methods that always been used were the net and lob. What we can see here is that, players need to have good agility in order for them to reach the shuttlecock that were continuously send to the front and back part of the court (12). The other ways to catch up with the shuttlecock is by lunge. If the players can perform good lunge, they will be able to cover the court easier (13-15). Without good agility, players definitely will not be able to prepare and could cause them to lose the match.

Next, we can see that net is the highest non-effective returns. This showed that players need to really master the skills to avoid from giving points to the opponents. Next is the smash. Among the factors that cause non-effective smash is the jumping ability. If the players do not have enough power, or have been fatigue through the matches, they will not be able to jump high to perform a good smash. Thus, plyometric training should be included in the training program. Drop is another skill that provides high non-effective return. One of the causes that we can see through the video is the inability to exert enough force to pass the net. Thus, players need to improve their drop training so that they can predict the force needed is enough to clear the net.

### 5. Conclusion

Through this research, we can see that badminton players need to have good muscle strength, endurance, agility and power to move vigorously in the court. The opponents will try to send the shuttlecock to the sites far from the players to earn advantages. It is a need for the badminton players to have a proper physical conditioning training in order to increase their performance and at the same time reduce the risks of injury.

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