



# Characteristics of the return in professional women's tennis on clay courts

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## ABSTRACT

The number of studies related to notational analysis of the serve has grown in recent years, and this latest research has suggested that: players win more with the serve at younger age groups; with males, there is more variation in direction and more points are won on the forehand than the backhand return; and, women return closer to the net with a flatter trajectory than male counterparts. Despite advances in research there is still little on female tennis, especially on clay courts. In this study, 795 points of female matches at the BBVA Open Valencia 2017 ITF event were analysed. On the first serve, on the left, players use mainly backhands and hit crosscourt, whereas on the right, there were no significant differences in forehands and backhands hit, and there was more variation in direction. On the second serve, on the left, players still mainly used backhands but hit more shots down the line; whereas on the right, players hit mainly inside-out forehands and there were no differences in the direction hit.

**Key words:** return of serve, women's tennis, direction, clay.

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## INTRODUCTION

The return is fast becoming one of the most important strokes in modern tennis. As a matter of fact, different articles can be found in previous issues of this review which focus on this skill (Zawadzki y Roca, 2009; Aviles, Bengugui, Beaudoin & Godart, 2002; Bolletieri, 1995; Hedelund y Rasmussen, 1997; Kleinoder, 2001). Furthermore, in recent years, through notational analysis, it has been possible to obtain more reliable and objective information from different indicators that are of interest for the assessment of tactical performance of players (Martínez-Gallego, 2018). This has led to the existence of a significant number of studies that, through this type of analysis, have provided very interesting information related to the return. In this article, the main conclusions of some of the most relevant studies of this area will be drawn.

Gillet, Leroy, Thouwarecq y Stein (2009) analysed the effectiveness of the serve and the return on clay courts according to the effect and the direction in male tennis players. The main conclusions obtained were that the serve and the return had a great influence on the final score and, in addition, that the flat serves to the "T" and the return in the centre of the court were the strokes that were more effective for scoring points.

Furthermore, Hizan, Whipp y Reid (2011) also analysed the effectiveness of the serve and the return, comparing between professional players, 16&U high level players and 12&U high level players, without differentiating between their sex. The variables analysed were the type of serve, the type of return and the winner of the point. The main conclusions obtained were the following:

- Professional players were the ones who scored the fewest points on return of first serves.
- 16&U players won equally on the first serve return and second serve return.
- 12&U players won a higher number of points on return of first serve, according to the two study cases.

According to Kovalchik y Reid (2018), in male players on hard court, there is a greater variation in the direction with a return with the forehand than with a backhand and, in fact, a higher number of points are scored by returning with a forehand than with a backhand. Moreover, when it comes to varying the direction of the return, girls vary more than boys. Finally, regarding this study, in male players, conclusions can be drawn that a higher number of points are scored by returning fast and flat as opposed to high and with topspin.

In a recent study by Reid, Morgan and Whiteside (2016), which compared the differences between women and men at the Australian Open, it was concluded that women returned closer to the net, hit the ball lower and with a flatter trajectory than men.

As can be seen, in spite of the fact that in recent years the information available regarding the tactics used by the players for return has increased, there is little information about women's tennis, and none about women's tennis on clay courts. That is why the objective of this article is to describe and analyse the potential differences of the main characteristics of the return in the women's game on clay courts.

## METHODS AND PROCEDURES

### Sample

The sample of this study consisted of 15 sets corresponding to 7 matches at the BBVA Open Valencia 2017 in which 795 points were analysed belonging to the, a tournament that takes place in November in the facilities of the Valencia tennis Club and is played on clay courts in the open air. The matches were played by professional female tennis players who are ranked between 200 and 900 in the WTA world ranking. All the players were right-handed. The average age of the players was 23.1 years old. In order to be able to record matches during the competition, written consent was obtained from the tournament organisers.

### Variables analysed

The variables analysed in the study are the following:

#### Independent variables

- Side of the court – The side where the player serves (deuce/advantage).
- Type of serve – The type of serve performed (first or second serve; open/body/T).

#### Dependent variables

- Type of return – The type of stroke performed for the return (forehand/handback/reverse forehand, reverse handback)
- Return zone – The side where the return bounces (down the line / crossed)

### Statistical analysis

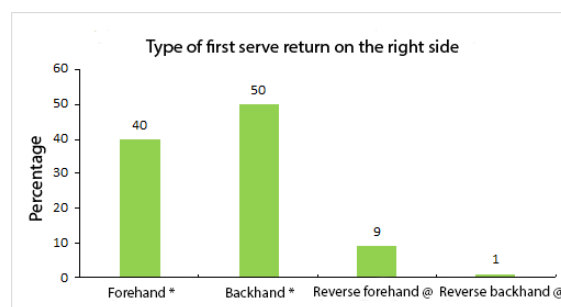
Statistical analysis was carried out using the SPSS statistical package version 21 for Mac (SPSS Inc., Chicago, Illinois,

United-States). The Kolmogorov Smirnov test was performed to check the normal distribution of the data in each of the variables, and this obtained atypical values and large differences in variance in all variables derivations of normality, thus non-parametric tests were used. The Friedman test was used to check if there were significant differences between the different variables analysed. In order to compare data between winners and losers, the Wilcoxon signed-rank test was used.

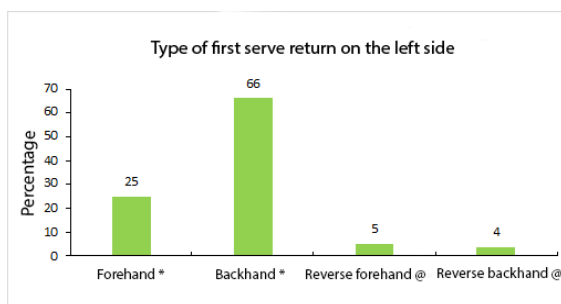
## RESULTS

### First serve return

With regard to the type of return, graph 1 shows how, on the right side, the percentage of forehand and backhand returns was significantly higher than the other types of stroke. On the left side (graph 2), the most commonly used type of stroke was the backhand.

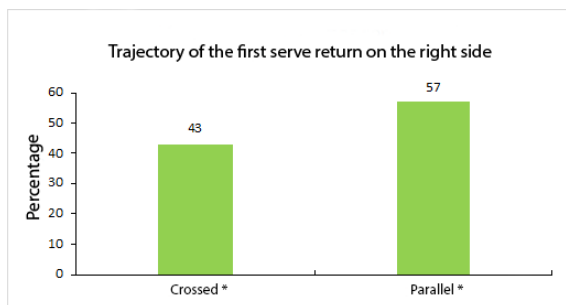


Graph 1. Percentage of first serve returns, according to the type of stroke. \* Significant difference ( $p < 0,05$ ) between Reverse forehand and Reverse backhand. @ Significant difference ( $p < 0,05$ ) with other types of stroke.

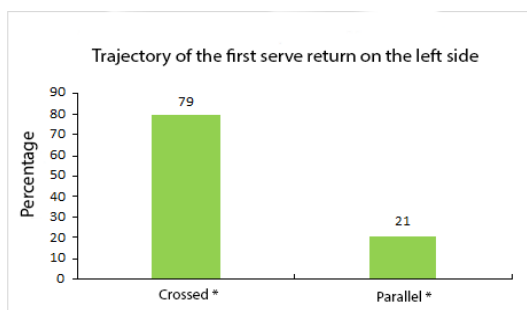


Graph 2. Percentage of first serve returns on the left side, according to the type of stroke. \* Significant difference ( $p < 0,05$ ) with other types of stroke. @ Significant difference ( $p < 0,05$ ) between forehand and backhand.

Regarding the trajectory, as can be seen in graph 3, the players performed a significantly higher percentage of down the line returns on the right side. However, on the left side, they performed a higher percentage of crossed returns.



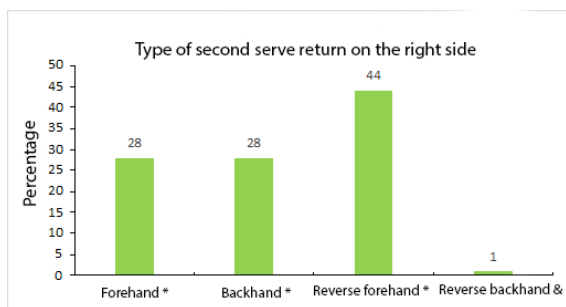
Graph 3. Percentage of first serve returns on the right side, according to the trajectory of the stroke. \* Significant difference ( $p < 0,05$ ).



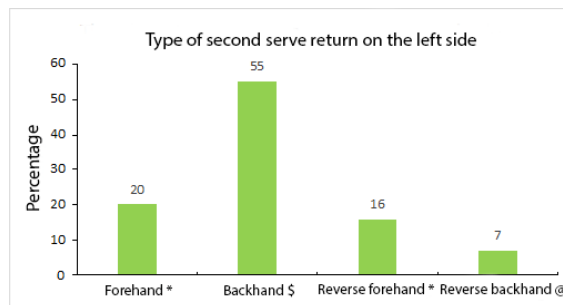
Graph 4. Percentage of first serve returns on the left side, according to the trajectory of the stroke. \* Significant difference ( $p < 0,05$ ).

### Second serve return

On the right side, as can be seen in graph 5, there is no difference in the percentage of forehand, backhand and reverse forehand, a trend ( $p = 0,56$ ) indicates that the percentage of reverse forehand was significantly higher. As far as the left side is concerned, the type of return that was performed the most was the backhand return.

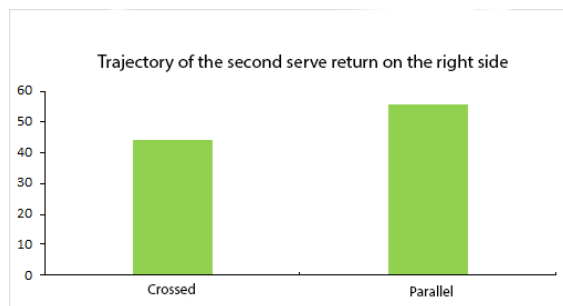


Graph 5. Percentage of second serve returns on the right side, according to the type of stroke. \* Significant difference ( $p < 0,05$ ) with reverse backhand. & Significant difference ( $p < 0,05$ ) with other types of stroke.

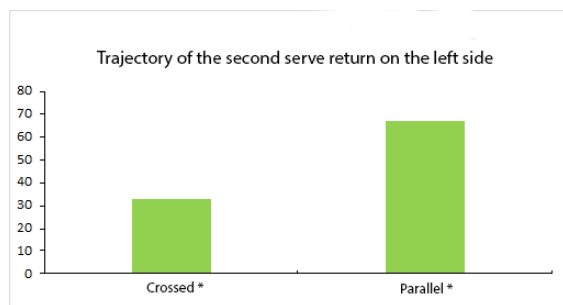


Graph 6. Percentage of second serve returns on the left side, according to the type of stroke. \* Significant difference ( $p < 0,05$ ) with backhand and reverse backhand. \$ Significant difference ( $p < 0,05$ ) with other types of stroke. & Significant difference ( $p < 0,05$ ) with backhand.

With regard to the direction of the return of the second serve, there were no differences on the right side (graph 7), while on the left side there were more down-the-line returns (graph 8).



Graph 7. Percentage of second serve returns on the right side, according to the trajectory of the stroke.



Graph 8. Percentage of second serve returns on the left side, according to the trajectory of the stroke.

## DISCUSSION AND CONCLUSIONS

### First serve return

The main conclusions that can be drawn from the results regarding the first serve return are the following:

On the right side:

- Although the players do return more with backhands, this difference is not significant
- Players only do a few less forehands than backhands
- Players do more down-the-line than crossed returns

On the left side:

- The players mainly return with backhands
- The players do more crossed than down-the-line returns

### Second serve return

The main conclusions that can be drawn from the results regarding the second serve return are the following:

On the right side:

- The players do a large number of reverse forehands and rarely hit backhands
- There are no differences in the percentage of down-the-line and cross court returns

On the left side:

- The players mainly hit backhands
- The players do a larger number of down-the-line than cross court returns

The fact players do not entirely focus on the first serve return seems logical, as the speed of the first serve is usually higher than the second one (Reid, 2016) and therefore, the players have less time to react. In addition, on the left side, a large number of backhand returns indicates that the server mainly uses open serves. Moreover, the trajectory of the first serve return shows that players try to serve most of the time to the opponent's backhand. In this sense, for future studies, it would be advisable to establish another area that indicates which returns go to the centre of the court, given the importance of the return's trajectory (Hizan y cols., 2011).

The data regarding second serve indicates that servers try to serve on the backhand of their rivals, but the rivals have the time to move to the right, whereas on the left side they do it less, because of the open trajectory of the serve. Regarding the trajectories of returns, on the right side they do vary a lot, while on the left side they tend to look for down-the-line options.

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### RECOMMENDED ITF TENNIS ACADEMY CONTENT (CLICK BELOW)



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