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COACHING & SPORT SCIENCE REVIEW

The Official Coaching and Sport Science Publication of the International Tennis Federation

EDITORIAL

Welcome to issue 64 of the ITF Coaching and Sport Science Review which is the third issue of 2014. The articles in this issue cover a variety of topics including the secrets of Spanish tennis, accomplishing Grand Slam goals, specific key points in tennis and reflective considerations on tennis learning.

The ITF is pleased to announce that the 2015 [ITF Worldwide Coaches Conference by BNP Paribas](#) will take place in Antalya, Turkey from Tuesday 17 to Saturday 21 November 2015. The event is being organised by the ITF in conjunction with the Turkish Tennis Federation (Turkiye Tenis Federasyonu) and Tennis Europe. The ITF Worldwide Coaches Conference by BNP Paribas is an international coaching conference which regularly attracts over 800 coaches and experts from over 80 different countries around the world. The venue will be the Kaya Palazzo and Belek hotels & Convention Centre in Antalya. The ITF Worldwide Coaches Conference by BNP Paribas is the showpiece of the ITF's [Coach Education Programme](#). This 5-day conference will bring together leading international experts in coach education, player performance and sport science to present on the latest developments in these fields through practical on-court coaching presentations as well as lecture room presentations.

This year has seen 5 successful BNP Paribas [Regional Coaches Conferences](#) take place across the continents, showcasing the latest advances in tennis coaching, teaching methodology and tennis specific sports science research. The theme for the Regional Coaches Conferences this year was 14 & under tennis. The events were conducted in partnership with Olympic Solidarity and the Regional Associations. We would like to thank the speakers, the host national and regional associations as well as Olympic Solidarity which helped to fund the conferences for helping us to make the events successful. Olympic Solidarity also funded the [European Coaches Symposium](#) which was held in Tallinn, Estonia in October.

Progress with ITF resources throughout 2014 has seen the publication of 'Tennis Psychology' and 'Developing young tennis players' in e-book format. 'Developing Young Tennis Players' was recently published in e-book format in Spanish, interested readers can go [here to purchase](#).

It has been another memorable year for [Davis Cup](#) by BNP Paribas with a record-breaking crowd in the final between France and Switzerland proving to be the icing on the cake. In total 566 players from 122 nations contested this year's competition, in which Switzerland, led by Roger Federer and Stan Wawrinka, became only the 14th nation to win the 115-year-old event after defeating France 3-1 in the Final in Lille on 21-23 November.

The Final attracted a record number of spectators for an officially-sanctioned tennis event with a crowd of 27,448 on Sunday in Lille. This brought the total attendance for [Davis Cup](#) in 2014 to 600,000 spectators. ITF President Francesco Ricci Bitti said: "It has been an outstanding year for Davis Cup, with strong player participation,

record attendances, and increasing TV and online audiences." A key factor in the success of [Davis Cup](#) in 2014 has been the launch of [Show Your Colours](#), a new fan-focused campaign to promote Davis Cup and [Fed Cup](#) as the world cups of tennis, and already used by over 60 nations globally. Building on the unique team nature of both competitions, [Show Your Colours](#) uses branding elements for promotion, in-stadium activities and all of the ITF's website and social media activity.

In 2014 the ITF Junior Tennis Taskforce published recommendations for 10 & 12-and-under competition for National Associations. The recommendations are to assist [National Associations](#) and their coaches with how to benefit the 10 & 12-and-under players training and playing in the national competition structures. The taskforce is made up of high profile experts in the field of junior tennis high performance and player development, representing ten of the most successful tennis nations from each region around the world including Argentina, Australia, Brazil, Canada, France, Germany, Great Britain, Japan, Spain and USA. Click [here](#) to access the recommendations.

[Tennis Xpress](#) continues to be implemented in many National Association's national development programmes worldwide. Tennis Xpress is an easy, active and fun coaching programme for adults and the aim of the course is to enable starter adults to learn to 'Play Tennis the Easy Way!'. By the end of the course all adults will know the basic techniques, tactics and the Rules of Tennis and will be able to play user friendly competition using the green or yellow ball on a full court. To access to six-week course schedule and to find our more about Tennis Xpress, click [here](#).

A new feature on [Tennis iCoach](#) provides users the ability to rate content, from 1 to 5 stars. This feature will allow coaches to not only interact with the site, but also to find content that is the most popular among iCoach members, at the click of a button. The [ITF Tennis iCoach](#) website remains at the forefront of online coach education platforms. The platform hosts up to date and current research making it easily accessible to parents, players and coaches across the world. Click [here](#) for a tour of the site.

We hope that you find the 64th edition of the [Coaching and Sport Science Review](#) interesting and that it will allow coaches across the world to build on and develop their coaching knowledge. We also hope that you will continue to make use of all the other coaching resources provided by the ITF which can be viewed [here](#).

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A study of the physiological characteristics of tennis

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ITF Coaching and Sport Science Review 2014; 64 (22): 3-5

ABSTRACT

This article describes the most important physiological characteristics of tennis players, as heart rate, lactate concentration, oxygen consumption and subjective perception of effort, depending on the players' age, level, and gender. This information will help coaches to plan training sessions according to these parameters.

Key words: heart rate, lactic acid concentration, oxygen consumption

Article received: 2 August 2014

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Article accepted: 30 August 2014

INTRODUCTION

Tennis is an intermittent sport, with effort intervals that vary from low to high intensity due to short and repeated but highly intensive actions (Kovacs, 2007). Even though its characteristics in terms of temporal structure with a number of continuous action intervals are similar, there are some characteristics such as court surface (carpet, natural lawn, artificial lawn, cement, clay, etc.), the age, gender, level of the player or the match situation that can have a direct impact on the characteristics of the effort or even the metabolic pathways used, and the physiological parameters of the players.

METABOLIC PATHWAYS USED IN RACKET SPORTS

Competitive tennis, analysed in its formal structure, can be said to be a sport in which different metabolic pathways are involved (Sanz & Ávila, 2004), due to the interval characteristics of the activity. Studies performed on tennis players indicate that tennis is predominantly an alactic anaerobic activity (70% of the playing time), with a minor lactic anaerobic activity (20%) and a supporting aerobic base (10%) (Bergeron, Maresh, Kraemer, Abraham, Conroy & Gabaree, 1991; Ferrauti, Maier & Weber, 2002; Weber, Ferrauti, Porten & Rochelt, 2002).

Thus, generally speaking, we can state that the metabolic demands in this sport vary between the supply of anaerobic energy during the high intensity phase (for example in direction and hitting changes) and a good aerobic base to recover the energy easily, closing the lactate accumulation pathway, delaying fatigue and indirectly, favouring concentration, technical skill and the level of work during the match (König et al, 2001; Roetert et al., 1992). The analysis of the metabolic pathways used in tennis have been analysed according to the evolution of those parameters such as heart rate, oxygen consumption, (VO₂) lactic acid concentration (LA) or the subjective perception of effort (RPE) and observing the working and resting times during competition matches (König et al., 2001; Roetert et al., 1992).

Heart rate

One of the most deeply studied physiological parameters in tennis is the evolution of the heart rate during a match (Torres & Carrasco, 2004), since it is one of the few direct physiological indexes that we can get, and it is related to other cardio-respiratory effort indexes such as oxygen consumption in sub-maximal effort.

The study of the heart rate in high intensity exercises such as tennis, identifies the characteristics of effort and volume in terms of number and duration (Cabello, 2004). This way, when we study the evolution of the heart rate in competition, we must analyse the maximal and medium heart rate in order to determine the cardiovascular load that the sport demands (Bangsbo, 1996). The study of the medium heart rate on its own, does not reflect the intermittent nature of the game (Fernández, Sanz & Méndez, 2012).

Due to the intermittent nature of racket sports, including tennis, there are great variations in heart rate every few seconds. Research has shown how a tennis player's maximum heart rate can reach between 190-200 beats per minute when rushing to the net or to a drop-shot, while during resting periods between points it can decrease and reach 120-130 beats per minute (Bergeron et al. 1991; Gallach, 1992).

As a general reference, the medium heart rate in tennis players varies between 140-160 BPM, which is an intensity between 60-80% of the maximum heart rate (Torres & Carrasco, 2004) however, these values may vary depending on the age, if players are playing singles or doubles, the weather and even if the player is serving or receiving (Morgans, Jordan, Baeyens & Franciosa, 1987; Reilly & Palmer, 1995; Smekal et al., 2001). Several studies have shown higher heart rate values for players who are serving than for those players who are returning, both in male and female players (Méndez, Fernández, Fernández & Terrados, 2007; Fernández, Fernández & Terrados, 2007). In comparison, the maximum heart rate based on other studies show similar results to those in sports like badminton and paddle tennis. Baiget, Iglesias & Rodríguez (2008) showed maximum heart rate values that ranged between 189 & 191 BPM in male competition tennis players, higher than the results of Galiano, Escoda & Pruna (1996) with values that were relatively lower, 178-180 BPM.

Authors	Sample	Max HR	Mid HR
TENNIS			
Christmass, Richmond, Cable, Arthur y Hartmann (1998)	8 tennis players	189 ± 3 BPM	-----
Sindal et al. (2001)	20 male players	193 ± 9 BPM	Between 145 ± 19 & 158 ± 16 BPM
Ferrauti, Bergeron, Pluim & Weber (2001)	6 men and 6 women	-----	Men 142.5 ± 12.7 & women 141.5 ± 18.9 BPM
Torres, Cabello & Carrasco (2004)	16 men and 16 women tennis players	-----	158.4 ± 8.51 BPM
Fernández, Sanz, Sánchez, Pluim, Timessen & Méndez (2009)	20 tennis players	Between 180.3 ± 6.5 & 185.3 ± 5.3 BPM	-----
Torres, Sánchez-Pay & Moya (2011)	8 male players	183 ± 14.85 BPM	134.12 ± 8.88 BPM

Table 1. Most important research related to HR in tennis. Adapted from Torres & Carrasco (2004).

Lactic acid concentration

The lactate concentrations have been used to estimate the intensity of the work during sport competition and training and to provide information about the energy production through glycolytic processes (König et al 2001; Roetert et al 1992). It is important to be careful when interpreting the lactic acid concentration during matches and training, since results may be affected by several factors such as fitness at the time of measuring (Fernández, Sanz & Méndez, 2012).

Studies made during a tennis match are usually low with averages between 1.00 y 4.00 mmol.L⁻¹ (Bergeron et al., 1991; Christmass et al. 1998; Ferrauti et al., 2001; Reilly & Palmer, 1995; Smekal et al., 2001). However, during long and intense points, it is possible to find lactic acid close to 10 mmol.L⁻¹ (Méndez et al, 2007). High lactic

acid values have also been found in concrete actions like rushing to the net or during a sprint (Gallach, 1992), in highly trained players (Therminarias, Dansou, Chirpaz & Quirino, 1990), or during service where values were higher than in return (Méndez et al., 2007). The authors consider that the possible lactate concentrations do not remain high during a tennis match due to the ratio between working time and rest, in which the latter lasts more than the first (Bergeron et al. 1991; Christmass et al., 1998; Smekal et al., 2001).

Oxygen consumption

In general, tennis players consume more oxygen (VO₂max), which varies between 47 & 53 mL/kg/min; higher than the sedentary population 38-42 mL/kg/min (González, 1992). Similarly, research shows that a male tennis players' VO₂max is higher than in female tennis players and VO₂max is significantly higher among junior players (16-17 years) as compared with children 8-12 years (Reilly & Palmer, 1995; König et al, 2001).

Subjective perception of effort

Effort subjective perception can be defined as 'the subjective intensity of effort, stress, discomfort and / or fatigue during physical exercise' (Robertson, 1997). The scale of effort perception in Borg (RPE) is a simple and reliable method to measure the intensity of exercise (Borg, 1998). There is little information to describe the response to RPE during a tennis match (Fernández & cols., 2012), although in competition players, values range from 12-13 in Borg's scale (Méndez, Fernández, Bishop & Fernández., 2010), just as there have been increases in RPE values in response to longer points or more strokes per point (König et al., 2001; Roetert et al. 1992).

Practical application for coaches

The aim of knowing the physiological profile of a player is to determine the physiological and contextual demands that impact on performance, in turn to adapt training sessions and optimise the player's profile (Torre-Luque, Sánchez-Pay, Bazaco & Moya, 2011). Thus, with elements like the pulse meter, it is possible to control training loads for players, allowing for better planning and periodisation for their training sessions. The coach or the trainer can control, not only the training volume with temporal parameters, but also its intensity through knowledge of the heart rate or oxygen volume.

Finally, the regular control of these physiological parameters and their evolution will help the coach to be aware of the effect of certain training loads and programmes for physical, tactical or technical work on court.

CONCLUSIONS

With the revised data, it is possible to state that tennis is an intermittent sport due to players reaching, between 130 and 160 beats per minute during a match and it can be classified as a sport of moderate / high intensity. Further research is still necessary since, as observed, depending on the gender, the playing surface or the level of the players, values vary enormously.

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[RECOMMENDED ITF TENNIS ICOACH CONTENT \(CLICK BELOW\)](#)

Tennis  **iCoach**

Adaptive and reactive skills involved in the return of serve in tennis

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ITF Coaching and Sport Science Review 2014; 64 (22): 6-8

ABSTRACT

Some years ago, Nick Saviano notified qualitative observations. In this study we have made a chronometric analysis of the split-step and the response times of experienced returners to prove qualitative observations in a quantitative way. The research included the relationship between the different phases of the split-step and the reaction of the players. A 250 fps. high speed camera was used. The results partially confirm landing with the opposite foot. The ability to adapt the landing of the feet in a functional way was implemented by three of the five participants. It was also proved that those players who were faster to land, were also faster to react. There was also a relationship between the national qualification of the participants and the ability to react, since the best male player (M1) and the best female player (F1) had shorter response times.

Key words: split-step, taking off, adjustments before landing, reaction

Article received: 14 September 2014

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Article accepted: 28 October 2014

INTRODUCTION

The talent that professional tennis players exhibit on court is the product of many years of practice and implicit and explicit perceptive motor learning processes. This hard work is directed at becoming a top level returner with the capability of quickly perceiving the direction of the ball. Top level returners can intuitively return to the right side and accurately regulate their body movements until the time to make contact (Ruiz, 2012). After qualitative observation, Nick Saviano (2000) stated that top level players unconsciously produce functional behaviour to adapt to demanding strokes in different game situations. Saviano (2000) states that top level players are able to regulate the landing phase of the split-step, instead of landing with both feet simultaneously, they touch the ground first with the foot that is further away from the direction of the ball, so as to start the stroke with an explosive movement towards that side. Saviano concluded from his observations that when the players are in the air, they are able to perceive the direction of the ball. It is from these ideas that a chronometric study was performed in order to increase, by means of quantifiable data, the knowledge about specific footwork when returning, to prove that experienced returners are able to adjust or adapt the landing of their feet during the flight before contacting the ground. Another objective of the analysis was to find out if the different phases of the split-step (take off, flight and landing) were relative to the response times of returners.

METHOD

Participants

Two male players and three female players voluntarily participated in this study. The average age of the participants was 15.4 years with 5.6 years of intensive practice. The participants were selected by the Castilla-La Mancha Tennis Federation and each trained between 12 and 15 hours a week. The players participating in the research competed regularly in their respective categories and had a high national ranking in the RFET competition qualification system.

Material and Procedure

The players were filmed with a TroubleShooter TS250MS camera, Fastec Imaging (250 fps). The camera was placed behind the returning player to capture the moment of impact of the server, and the return shot from the deuce side and from the advantage side. Two additional JVC GY-301E and Cannon MV950 (25 fps) cameras recorded the service landing area and the accuracy of the return shots. A Sports Radar SR-3600 was used to record the service speed. The average speed for the male service was 162 km/h and for the females was 133 km/h.

Each player was recorded both as a server and as a returner. When serving, they were asked to serve a powerful and flat first serve in a certain sequence and the returner had the open court. The returner then had to direct the return shots to cones in each corner of the court. The return was scored between zero and four points depending on the accuracy. 13 attempts were recorded per player

and the image after image analysis occurred every four milliseconds (ms) (Figure 1). A Quick Time 7 Player, was used in addition to a portable MacBook and an auxiliary monitor.



Figure 1. The player's left foot touches the ground 32 milliseconds before his right foot helping to increase the dynamism of the return towards his right in the direction of the ball.

Findings and discussion

Table 1., Figure 2. and Figure 3. show the main results in time, percentage and score. Correlating to previous research, participants M1, M2 & F2 showed that they took off almost at the time of impact of the server (Avilés, Benguigui, Beaudoin, & Godard, 2002; Avilés, Ruiz, & Benguigui, 2006). Female players F1 & F3 took off late, +72 ms and +76 ms, after hitting. In reference to the time in the air, important individual differences were detected among participants. Player M2 remained in the air 172 ms while female player F1 was in the air only 60 ms.

Participants	Take-off Time	Flight Time	Landing time	Response time	% landing opposite foot	Scoring to return 0-4
Male player 1 (M1)	33 (27)	106 (30)	138 (27)	161 (30)	66.7	1.4
Male player 2 (M2)	-33 (45)	172 (41)	133 (29)	190 (26)	36.4	0.9
Female player 1 (F1)	72 (22)	60 (22)	132 (34)	169 (30)	78.6	1.2
Female player 2 (F2)	24 (54)	134 (37)	159 (29)	234 (32)	75.0	1.5
Female player 3 (F3)	76 (40)	119 (37)	195 (19)	237 (32)	83.3	1.0

Table 1. The three phases of the split-step in milliseconds and the response time. Typical deviations are between brackets. Percentages of landing with the opposite foot and the score when returning are on the right. Participants are ranked from the best to the worst, males (M) and females (F).

In relation to the adjustment of the feet just before touching the ground, Saviano's (2000) observations were confirmed, although four participants passed the random level (50%), only three players (F1, F2 & F3) surpassed 70%. The best player (M1) landed with his opposite foot 66.7% of the times, so it showed a tendency to adaptive adjustments just before landing (Table 1. & Figure 2.).

It is possible that the frequency of landing with the opposite foot benefited some participants because of a late take off. Taking off later (after impact and initial flight of the ball), the players can get more reliable information about the direction of the ball. On the other hand, anticipating take off makes it more difficult to obtain and use the information about the direction of the shot, and as a consequence, it is more complicated to adjust the feet when landing. For example, players F1 & F3 adjust landing on the opposite foot on 78 and 83% of the services, while player M2, who started take off prior to the stroke, did so 36% of the times.

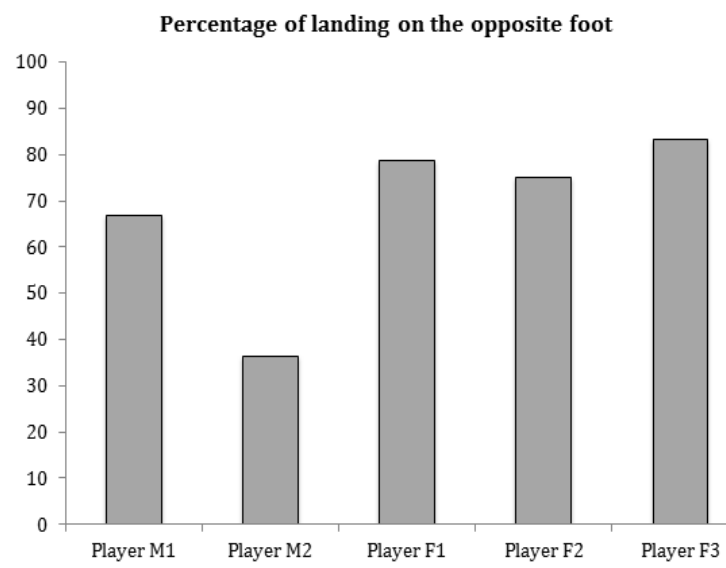


Figure 2. Percentage of landing on the opposite foot for each participant. (Surpassing 70% is evidence that this behaviour has a purpose and it is not just by chance).

The great adaptability of the best player is worth mentioning. She took off late and to make up for this she remained in the air for an extremely short time of 60ms. so that she could gain time to land, touching the ground in just 132ms. Besides, she landed with the opposite foot 78.6% of the time, only to react in just 169ms.

If all five participants had landed in a high percentage (over 70%) with the opposite foot, it would have been possible to consider the instant of landing as the true reaction, but this level was surpassed by all three female (F1, F2 & F3) but not by the two male players (M1 & M2). It is still uncertain what really happens when the returner is in the air, if the muscular pre-activation of the gastrocnemio regulates the visio-motor function before landing (Nieminen, Piirainen, Salmi, & Linnamo, 2013).

Landing is a crucial moment that illustrates the quickness of the returner and it could be considered strongly connected to reaction. If this is to be true, the following question could arise: Is there a relationship between the landing time and the response time? The response to this question is affirmative since the best players (M1 & F1) fell rapidly in 138ms and 132ms, and were the fastest in reaction with relatively short response times (see Gillet, Leroy, Thouvenecq, Mégrot, & Stein, 2010). The two female players who landed later (F2 & F3), reacted with slower times closer to 230 ms and similar to those in previous studies (Uzu, Shinya, & Oda, 2009; Vaverka,

Stromsik, & Zhanel, 2003; Williams, Singer, & Weigelt, 1998) (see Figure 3.).

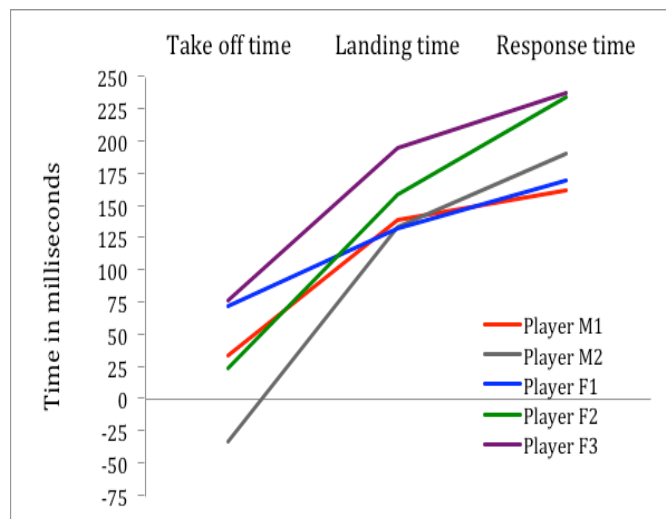


Figure 3. Time to take off, time to land and response time for each player. Returners who landed earlier (M1 y F1) also reacted faster.

In consideration that the response times of all five returners were over 160ms, and the accuracy of their responses (98.4%), it is possible to infer that the players responses were more adaptive and reactive than anticipatory (see Triolet, Benguigui, Le Runigo, & Williams, 2013). It is worth mentioning that the players who were fast, as well as those players who were slow, in landing and reacting have the chance to adjust their movement when hitting a return, in order to have accuracy when directing their shots to targets. For example, the fastest M1 player won 1.4 points and F2 with a long 234ms response time was the best performer with 1.5 points. The score of F2 indicates that even though she reacted much slower she still had a margin to adjust her movement until making contact with the ball.

CONCLUSION

In view of the results and the constraints of the size of the sample, we can state that there were important individual differences among experienced players. Returners showed adaptive skills to regulate the time of landing and the hitting movement.

Given the importance of a good return in today's game, the coach should evaluate and develop the player's action and reaction capabilities. Thus, he should examine the different phases of the split-step (take off/ flight/ landing), detect if he takes off early, within time or late, or even if he is fast or slow to land and react. The development of this area is an important aspect of the progression of a player and to improve their returning game, just 30ms can make a difference.

Acknowledgements

This project benefited from a research subsidy granted by the ITF Development Department. We would like to thank Conrado López, Ramón Guzmán, Virginia García, Ana Martín, Miriam Palomo, Juan Ángel Simón and Guillermo Viguria for their collaboration and for the help provided by the RFET Research and Teaching Area of Castilla-La Mancha Tennis Federation.

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[RECOMMENDED ITF TENNIS ICOACH CONTENT \(CLICK BELOW\)](#)

Tennis  **iCoach**

The Secrets of Spanish Tennis

Chris Lewit (Chris Lewit Tennis, USA)

ITF Coaching and Sport Science Review 2014; 64 (22): 9-10

ABSTRACT

The Secrets of Spanish Tennis are the common core elements that I have observed being taught across the country by different leading academies and coaching. They are the essence of the Spanish way, if the Spanish way can be effectively defined as a universal system. I have tried to harmonise the many varied and disconnected approaches that can be found across the country into simple elements that all coaches, parents, and players around the world can learn and assimilate into their own training systems. This article is an extract from the book 'Secrets of Spanish Tennis' by Chris Lewit.

Key words: Spain, clay, groundstrokes

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Article received: 10 September 2014

Article accepted: 25 October 2014

INTRODUCTION

The core Spanish elements are versatile and easily adaptable and can be “piggybacked” onto by other systems, and indeed this is part of their inherent value. The secrets are so remarkably easy to assimilate that I’ve often remarked that the Spanish way is like the Buddhism religion, which historically spread rapidly throughout Asia and the rest of the world due to its ease of assimilation and adaptability to other religions. The fact is that systems with intense, strong dogma, whether religious or otherwise, often do not spread as easily as methods that have some flexibility and do not seek to supplant other systems entirely.

I have made every effort to highlight commonalities in the Spanish way that can be easily adapted to current systems to provide supplemental support, although of course, these principles could be used to supplant your current training regimens entirely.

It is also important to understand that these secrets, while they can be taught as independent subjects, are often integrated into complete exercises in Spain. One of the hallmarks of the Spanish way, in general, is that the coaches work simply, without an overemphasis on only one area, such as technique, for example. Spain has developed a style of training that is successful in part due to its, “keep it simple,” holistic approach. In an effort to explain the philosophy and system in Spain, I have necessarily broken the approach into parts, but the reader should remember that the Spanish way often teaches core secrets all-at-once in integrated exercises.

FOOTWORK, MOVEMENT, AND BALANCE

Footwork is an obsession for Spanish coaches, as well as many South American coaches. The top academies and coaches relentlessly drill their players to move quickly, fluidly, and to get in position.

Why has footwork become such an obsession in Spanish coaching circles? My best guess is that it probably has something to do with a European culture that tends to focus on playing with the feet more than the hands (consider the popularity of soccer in Europe vis-à-vis the popularity of baseball in the US), and with a tennis culture that celebrates running and triumphing on the red clay, where footwork is essential to winning. The clay surface itself is like a second teacher, helping to train the movement and balance even without the coach’s input or drills.

Any Spanish coach worth his salt will have a toolbox of effective footwork drills (usually hand-fed) that he can use to help a player with positioning work. I must admit my own coaching has been greatly enhanced by studying footwork overseas at leading Spanish academies over the last few years. I have learned the keys to positioning, moving quickly with balance, and recovering, and I have picked up many unique drills along the way.

I am proud of the Spanish influences in my system because I believe Spanish coaches have developed some very important pedagogical approaches and drills to develop this key area. I think all coaches could learn how to teach movement and footwork better by studying the Spanish way.

BALANCE

A player needs to move fluidly with dynamic balance and good posture. Posture is very important to the Spanish coach. Controlling the COG (center of gravity) is also very important.

Spanish Coaches are trained to look for imbalances when the player is on the move, during the shot and on the recovery. Sometimes a player must shift his or her COG, in order to move quickly to a shot (for example, when sprinting to a ball out wide), but more often than not, and especially during the actual shot itself, the body should be centered. Rotation should take place around a central axis.

Firstly, Spanish coaches look for the contact point to be at the right height. In Spain, the most frequent directive to describe this is: “hit the ball between your hip and shoulder.” In other words, don’t let the ball drop below your hips or bounce over your shoulders where it’s out of the strike zone (to borrow an American baseball term). Thus the height of the struck ball should be between the hip and the shoulder for the majority of shots.

Secondly, the distance from the body of the contact point should be such that the arm/s efficiently extend so that there is no crowding and the arm/s do not get jammed too close to the body. This relates prominently to the technical goal of good extension, which I wrote about at length in my last book, *The Tennis Technique Bible*.

Thirdly, the body should be positioned such that the ball is played early and out in front. One of the most commonly used footwork teaching phrases in Spain is probably: “get [your body/feet] behind the ball,” used by Spanish coaches to instruct their players to get into position with their bodies so that the ball can be played out in front.

When these three criteria are met, the Spanish coach is happy because the body has a better chance to be on balance during the delivery of the shot if the contact point is correct. However, if the contact point is not correct, if even one criterion is missing, the player will most likely lose control of his COG and be off balance for the shot. Therefore, there is a critical connection between the contact point, the balance, and the footwork; they are intertwined. Ultimately, the positioning of the player’s feet determines whether the contact point is good, and thus whether the shot will be in balance or not. Spanish coaches become obsessed with the positioning because, without it, there is often a bad contact point and usually poor balance.

POSITIONING

Positioning in Spain classically means getting to the ball and getting the feet in a good stance, the proper distance from the ball, so as to allow for a balanced body during the swing. Positioning can also mean court position (such as whether a player is playing deep in the backcourt or close to the baseline). In this case, Spanish coaches guide players to be in the right position to attack or defend, depending on the situation and the type of ball hit by the opponent.

The positioning, as per the first definition, can be thought of as the footwork used to “receive the ball,” a commonly used phrase in Spanish tennis teaching. Receiving the ball means getting the feet into the right position to allow a good, balanced reception of the incoming flight of the ball. So in Spain there is this obsession with getting the footwork right during the flight of the incoming ball, to learn how to receive the ball properly, in good position, and then to send the ball with balance.

CONCLUSION

In my experience studying tennis systems in the US, I sincerely believe that our coaching curriculums do not spend nearly enough time working on footwork and especially this critical skill—the positioning—as they should. Fortunately, José Higuera, as Head of USTA High Performance Coaching, is working very hard to teach American coaches how to work on the footwork and positioning of their players. In fact, the USTA Elite Coaching Department has adopted many Spanish philosophies and even many Spanish footwork drills in its new teaching methodology, which is promoted to US coaches. The USTA has also installed more clay courts at American national training centers. The USTA has wholeheartedly and earnestly turned to the Spanish way!

What stance should players use as they get into position? In Spain, believe it or not, many academies still stress the basic neutral stance (which I see as almost an anachronism in the modern game, but the traditional neutral stance is still highly favored and is often recommended especially for beginners, which I think is good advice). Bruguera Top Team and Sánchez-Casal are major proponents of this classical approach, for example. They still teach neutral stance and stepping in to the ball as the foundational footwork skill. That being said, it is clear that most Spanish players evolve to use semi-open and open stances, and they use these heavily at the top ITF and professional levels, so these stances are certainly acceptable for higher level players and situationally, on emergency balls out wide (for example). Open stance can be used to get more body rotation and thus more racquet speed, power, and spin as players advance in level. But no matter what the stance, the positioning must be there, and the balance must be maintained through the shot.

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RECOMMENDED ITF TENNIS ICOACH CONTENT (CLICK BELOW)

Tennis*i*Coach

Why do some elite players accomplish their Grand Slam goals while others fail?

Niksa Djurovic (University of Split, Croatia), Ljubica Stanisic (University of Split, Croatia) & Fabrice Sbarro (S-A Tennis Team, Switzerland)
 ITF Coaching and Sport Science Review 2014; 64 (22): 11-13

ABSTRACT

When coaches talk about talent as the most important predictor of success, often we find through practical case studies that this hypothesis could not be confirmed. The question is: What is talent and are we missing something? The intention of the article is to accelerate the player's development and ultimately maximise their potential while directing coaches to core problems.

Key words: Grand Slam, player development, psychology, system of criteria
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Article received: 6 July 2014
 Article accepted: 3 September 2014

INTRODUCTION

What is hiding behind every successful Grand Slam player? Good genes, coach, talent, or something else? How can the process be accelerated to maximise the potential of a player? What techniques and procedures are needed in order to make a player actually start believing in each shot and every tactical solution? How easy is it to train the brain to let go of bad habits while simultaneously increase the level of adaptation to stress and pain and increase the level of optimism? Why do some extremely talented players not achieve their potential? In order to answer the question 'why do some elite players accomplish their Grand Slam goals while others fail?' we must first understand what talents is and how it can be channeled into success.

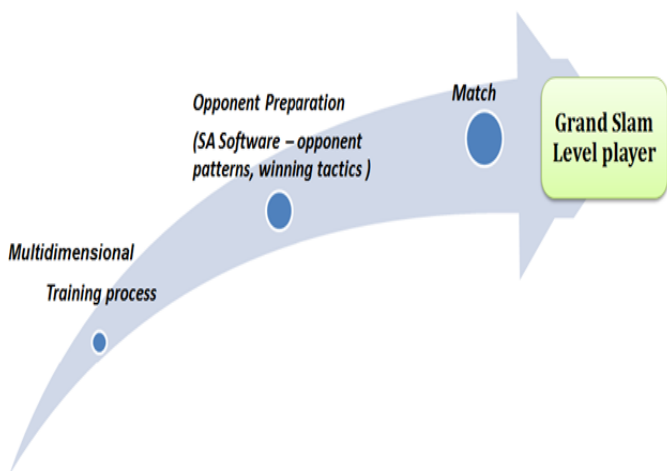


Figure 1. The three-step multidisciplinary approach.

SCIENCE BEHIND GRAND SLAM PLAYER DEVELOPMENT

Training processes (Figure 1.) which connect physiology, psychology and biomechanics allow new neural programs to develop. Trninic et al. (2010) have proposed a hypothetical model of the specific characteristics of elite athletes in team sports which served as the basis for the designing this model. The authors have shaped a hypothetical structure with 17 criteria within the six categories, while this model (Figure 2.) is designed through 15 criteria within two categories.

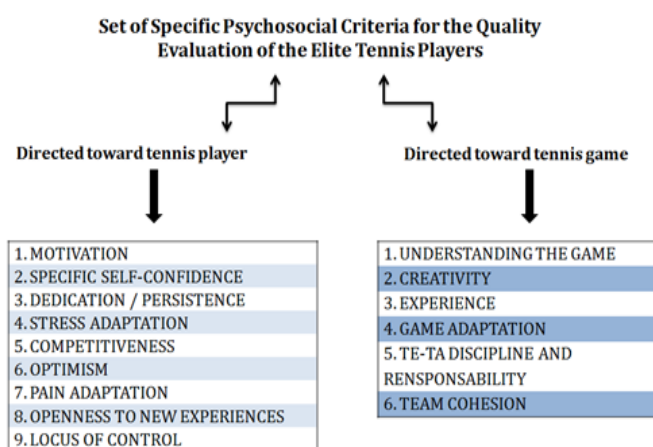


Figure 2. Specific psychosocial profile set for elite tennis players (modified according Trninic).

The system has been modified by the fact that tennis is an individual sport and some of the criteria that the authors have proposed apply exclusively for team sports. In order to explain how we should approach the player (off the court, on the court, and before/after the match), it's necessary to unmask a player specific psychosocial profile. The mentioned authors have explicitly explained the each of the above criteria as well as their scientific background.

An Example

If we observe the obtained results (Figure 3.), it is evident that a player cannot achieve high progress nor maximise their potential regardless of their talent, technique, tactics knowledge or level of movement.

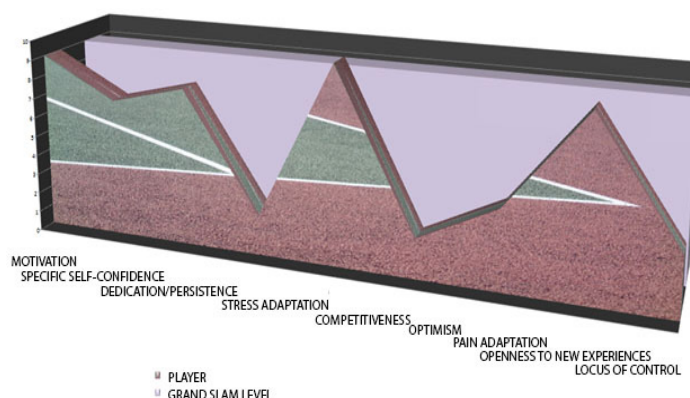


Figure 3. Player psychosocial assessment example.

Numerous scientific studies and practical experience show that inadequate coping with stress has a negative impact on psychological processes that are important for successful sports performance, such as the focus of attention and level of excitement (Nideffer, 1983; Lavallee & Flint, 1996). Furthermore, ineffective coping may decrease sports performance and increase muscle tension, while effectively dealing generally has a positive effect on performance in sports activities (Filaire et al., 2009). This is one of the most important reasons why some players accomplish their Grand Slam goals while others fail. Their team is focused on the core of the problem (psychosocial skill set) instead of outcomes, technique changes and numerous drills. Only when the psychosocial part is deciphered, expert teams can start with development on the court. Under the influence of specific technical-tactical and psychosocial preparation, we can develop psychological characteristics required to achieve the highest Grand Slam results. Using scientific analysis tools, expert teams can decipher game styles and use this to explain what to do on the court and why. By using AHP multi-criteria decision-making method, it's necessary to find out for each individual player what psychosocial criteria is most relative and important and what is least important.

The entire training process is set in such a way that the first and second chapter are merged into one unit for example, merging second serve return, with stress adaptation through anaerobic threshold level training or merging transition attack, pain adaptation through lactate tolerance training (specific drills). In accordance with the aforementioned, players are simultaneously developing necessary tennis, physiological and specific psychological criteria. This type of training will provide the three most important aspects of the training process

1. Measure the progress
2. New neural pathways development
3. Maximising player potential.



Figure 4. Development on the court / specific technical-tactical and psychosocial preparation.

Science behind Grand Slam Player Development

The second step is statistical software that allows functions to be adapted for the use of a personal coach on the professional tour. Statistical analysis software can be used to chart numerous tennis matches on a point by point basis. Results can include quantitative research while others are more qualitative analysing several players against a specific factor (O'Donoghue & Ingram, 2001). Concrete examples and accurate explanations about opponents (patterns of play, strengths and a weaknesses), expert teams must build a strong tactical plan for every opponent (Piles & Crespo, 2012).

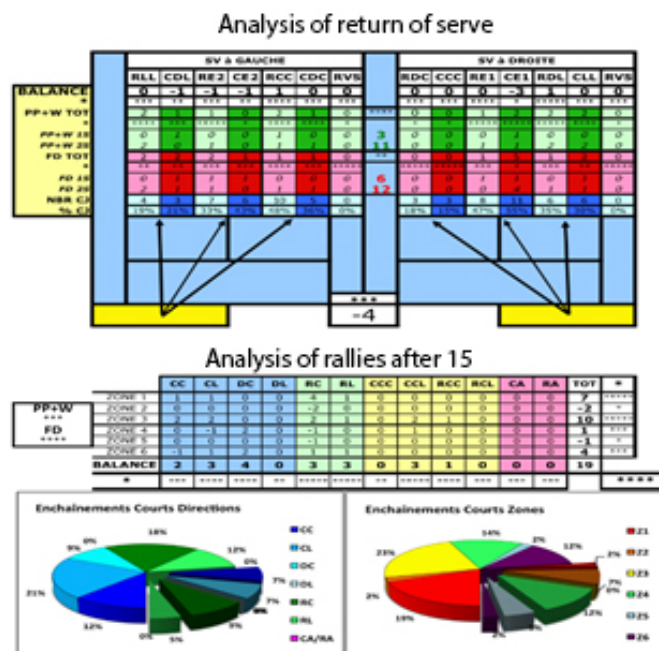


Figure 5. an example of pro-tour software.

Software must include and produce analysis for all surfaces for all opponents. Software should include profile types, factors that explain and determine victories and factors that explain defeat, key points including directional patterns, speed and pace of the ball for all shots including return, serve and groundstrokes. The analysis should include the performance of tactical patterns such as serve and volley, chip and charge, net charging on the first shot after the serve, net charging during a baseline rally.

Science behind Grand Slam Player Development

The third step represents multi-dimensional preparation for the match. Tennis is a mental game for all top players, and how do Grand Slam champions control their minds and thoughts between points and during changeovers is crucial for match outcome (Samulski, 2006). Expert coach needs to apply mental toughness techniques before matches in order to make players more focused and confident than their opponents in pressure situations (Jones et al. 2002). The results of the PTP (psychology, tactics, physiology) preparation provides feedback, subjective and objective information, after the match (Samulski, 2006).

CONCLUSION

The intention of the article is to accelerate the player's development and ultimately maximise their potential while directing coaches to the core of the majority of problems for players. Numerous studies in psychology, biomechanics and physiology as well as practical tests experience have enabled us to create a model that provides progress measurement, neural pathways development and potential maximisation. At the highest level there are no skipping steps, because all mentioned psychosocial variables are trainable. The first level (multidimensional training process) is the starting point where vision, strong work ethic, trust and appreciation are born, while second and third step are designed to provide the most appropriate learning environment to maximise potential of a player.

Acknowledgements

We would like to thank Professor Slavko Trninic. Your work has been an inspiration as to what research work can achieve.

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[RECOMMENDED ITF TENNIS ICOACH CONTENT \(CLICK BELOW\)](#)

Tennis  **iCoach**

What are the key points to win in tennis?

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ITF Coaching and Sport Science Review 2014; 64 (22): 14-15

ABSTRACT

The purpose of this study is to understand the tennis scoring system in order to highlight the points that have the most influence on the chances of winning a match. Based on the analysis of point sequences played during men's singles matches at the last French Open, it has been possible to show the importance of winning points at 30-all and being the first to have the advantage in deuce situations. This article also discusses the consequences of these findings on tennis players' training.

Key words: big points, match win, training, French Open

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Article received: 12 September 2014

Article accepted: 20 October 2014

INTRODUCTION

When tennis experts are asked about what differentiates the world's top players (the likes of Djokovic, Nadal and Federer) from the others, they generally mention the mental aspect as being a key factor in success. Coaches and players alike also agree that these players are better at playing the big points of a tennis match, thus increasing their chances of winning. Even though there appears to be a consensus that the ability to play big points well is vital, determining exactly what those points are remains difficult. Are "big points" break points at the end of a set? Having the advantage on serve at 6-5? Points played at 5-all in tie-breakers? In order to obtain some preliminary answers, we can first take a look at statistical models specific to tennis to see if these bring new insight into what big points are.

STATISTICAL MODELS IN TENNIS

The first statistical analyses based on the distribution of points in tennis and the probability of winning matches date back to the 1970s with the introduction of the Markov chain (Schutz, 1970). Further to these studies, the 2000s saw a series of studies attempting to model the probability of winning matches. Without claiming to be exhaustive, we can mention the work of Clarke & Dyte (2000) which used the ATP ranking point system as well as the differences in players' ranking points to predict the outcome of head-to-head contests. In a similar fashion, Barnett & Clarke (2005) used the official statistical data published by the ATP to assess each player's chance of victory in a tennis match. Finally, Barnett, Brown & Clarke (2006) developed a revised Markov chain model to predict the outcome of matches and determine each player's probability of winning in a head-to-head contest. Thanks to all these models, it is currently possible to track each player's chance of winning a tennis match in real time. However, these models do not give a picture of the importance that some points have compared to others.

In addition to these studies, the ATP publishes and updates a set of statistics on matches played by professional players. Coaches thus have valuable information, allowing them to analyse their players and their opponents with great precision. Among these statistics, some are considered as playing a major role in the probability of winning a match. This applies specifically to the number of break points converted, the first serve percentage, or the percentage of points won on first and second serves. However, no data is available at the present time to identify the key statistic that could help determine the probability of winning a match.

Our objective is therefore to identify a statistic that has a major effect on the probability of winning a match. By analysing point sequences played in tennis matches, we want to determine the big points that players should pay special attention to.

METHODOLOGY FOR THE ANALYSIS OF SEQUENCES OF PLAY

Our method is based on the analysis of point sequences played in matches of the 2014 French Open men's draw. We analysed all the matches played during the tournament, i.e. a total of 127

matches. In order to get point-by-point score lines, we referred to the "flashresultats" Website. We took into account three types of data to carry out our analyses, namely, the player who wins the point at 30-all, the player who has the advantage (following a deuce situation), and the player who has the advantage first in the game (without the score being 30-all). These three data were studied against the number of games won by each player and their role (server or returner). For example, we looked at what player won the point at 30-all, the server or the returner, and examined the impact of that point win on the win/loss of the game (a similar approach was used for the other two data).

RESULTS

The results are shown in tables indicating the chance of winning the game from several possible situations. Probabilities are expressed as percentages and the possible situations correspond to the three types of data collected using our method, added to which are the chances of winning a game regardless of the initial conditions. Table 1 shows the data for the matches of the first three rounds (N=112).

Chance of winning the game (%)	Server	Returner
For the player who wins the point at 30-all	88.87%	61.14%
For the player who has the advantage	66.63%	39.13%
For the player who has the advantage first	92.61%	65.18%
Over all matches	74.60%	25.40%

Table 1. Probabilities of winning a game during the first week of the tournament.

Table 2 shows the data for the matches played from the fourth round to the final (N= 15).

Chance of winning the game (%)	Server	Returner
For the player who wins the point at 30-all	92.16%	71.74%
For the player who has the advantage	65.09%	49.23%
For the player who has the advantage first	88.23%	78.57%
Over all matches	76%	24%

Table 2. Probabilities of winning a game during the second week of the tournament.

Results show that in two out of three situations, the player who wins the point has a higher probability of winning the game compared to the percentage of games usually won during the tournament. Whether the player is serving or returning, the two most favourable situations to win the game are winning the point at 30-all and being the first to have the advantage. In the first week, the server who wins the point at 30-all has 14.27 percent more chance of winning the game compared to the normal (88.87% against 74.60%). In the same condition, the returner increases his chance by 35.74% (61.14% against 25.4%). The player who has the advantage first (following a score of deuce) has 18.01 and 39.78 percent more chance of winning the game as a server and as a returner, respectively. Results found for the second week of the tournament confirm those observed for the early rounds. When serving, if the player wins the point at 30-all, he has 16.16 percent more chance of winning the game compared to the percentage of games usually won on serve. When returning, the player has 47.74 percent more chance of winning the game if he wins that particular point. As for the player who has the advantage first, he increases his chance of winning the game by 12.23% and 54.57% when serving and returning, respectively.



DISCUSSION

The point-by-point analysis of sequences of play highlights two situations that play a particularly crucial role in the probability of winning games in tennis. Indeed, players who succeed in winning points at 30-all or those who have the advantage first greatly increase their chance of winning the match. Compared to the percentages of games usually won during the tournament, servers increase their chance of winning by 15% on average in these two situations. As for the returners, the advantage given by these situations is crucial since their chance of winning increases by more than 44% on average. These results highlight two matchplay situations that can be considered as big points in tennis since they increase players' chances of winning games.

CONCLUSION

The point-by-point analysis of sequences of play during men's matches at the 2014 French Open brings new knowledge on the handling of big points in tennis. This research uncovers a hitherto unknown dimension in terms of statistics and analysis of high-level tennis matches. It encourages tennis coaches to adopt a new approach by teaching how to play big points from the perspective of typical matchplay situations. Indeed, learning how to handle the big points will prove more effective if the player is put in a 30-all situation rather than in the context of head-to-head contests where the first player to 5 is the winner (as is too often the case). Furthermore, it is recommended for coaches to help

players improve on serve and return of serve in the deuce court, i.e. where points are played when the score is 30-all or deuce. Tactical training methods aimed at improving game plans in the deuce court should therefore be considered. It will be interesting to do a similar analysis of sequences of play during Wimbledon to compare results and verify if big points arise in the same matchplay situations.

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[RECOMMENDED ITF TENNIS ICOACH CONTENT \(CLICK BELOW\)](#)

Tennis  **iCoach**

Understanding tennis learning: Reflective considerations on tennis learning theoretical underpinnings

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ITF Coaching and Sport Science Review 2014; 64 (22): 16-17

ABSTRACT

The purpose of this paper is to reflect on some issues that lie under the surface of tennis learning. Such reflective actions are suggested to deepen our understandings towards our practice and lead to effective tennis coaching.

Key words: coaching, skill-based approach, game-based approach, learning metaphors, reflection

Article received: 4 August 2014

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Article accepted: 3 September 2014

INTRODUCTION

Coaching as a profession combines knowledge from several disciplines such as physiology, biomechanics, psychology, sociology and others and it has been characterised as 'evolutionary in status' (Abraham & Collins, 2011). Given the broad scientific base of the profession, different perspectives are possible, however, certain commonalities between the teaching and coaching profession have been explicitly underlined (Armour, 2011). This means that the young learner's needs are placed at the centre and the coach is to serve those needs. The tennis coaching profession does not constitute an exception, similarly to teaching in general, it situates the young learner at the core within the tennis learning context. As it has been claimed, 'the primary job of a tennis coach is not solely to teach tennis, but to help their students to learn it' (Roetert & Crespo, 2002). Following this stance, there is a focus on the coaching profession as a profession which encounters a teaching and pedagogical orientation. As such, understanding what learning means to children and young athletes is crucial for the profession. Below are some theoretical **basis** of current research on learning is presented and the reader is invited to reflect on how this theory implicates on her or his own practice.

PERSPECTIVES ON LEARNING AND LINKS TO TENNIS

In recent years in tennis teaching and coaching, tennis experts have advocated a shift from skill-based approaches which focus on specific aspects of the sport, to a more game-based approach which are closely related to the sport as a playing situation. As Pankhurst (2013) suggests, a tennis coach should emphasise, instead of 'what' skills to teach, on 'how' children learn skills. The former question is related to specific elements of the sport, which the athlete has to acquire and then transfer into playing situations. The latter one lays upon the idea that learning is a complex process for the whole person and teaching and coaching focus on creating a learning context in which the athlete is situated and develops her or his sporting ability. There are obvious links between skill-based approaches to the 'what' question and respectively game-based approaches to the 'how' question. Furthermore, since 'how' to teach is addressed as more important compared to 'what' to teach (Pankhurst, 2013), it comes as no surprise the suggested shift from skill-based to game-based approaches.

It might be helpful to make some reflective comments on how learning is viewed by these two approaches. The idea behind this reflection is to deepen the theoretical understanding of learning processes, something that will have a substantial influence on practice (Abraham & Collins, 2011; Timperley, 2008).

The research field of learning draws upon a debate of two metaphors of learning, 'the acquisition metaphor' and 'the participation metaphor' (Sfard, 1998). Viewing learning as acquisition implies that the learning object is to be transferred to the learner through a cognitive process. This is a traditional view that learning and a skill-based approach are theoretically underpinned by this view. On the other hand, the participation metaphor, which has been more recently evolved, considers learning as a social process and

thus focuses on the learning context. Recent studies into tennis coaching support that a game-based approach underlines the necessity of implicit learning (Barrell, 2013; Buszard, Reid, Farrow, & Masters, 2013; Iserbyt, Madou, Vergauwen, & Behets, 2011; Pankhurst, 2013; Zmajic, 2013). Through reflecting on this implicit learning function while teaching tennis, it could be claimed that the tennis coach is expected to limit direct instructions and create a learning environment in which children can experiment in playing tennis (Barrell, 2013). Given this idea, the game-based approach theoretically flows along with the participation metaphor of learning. Moreover, such approaches seem to agree with the pedagogical orientation of the coaching profession as it was set out in the first paragraph of this paper.

The explanations presented above are considered as stimuli and to initiate self-reflection for tennis coaches. Such a thoughtful approach towards the profession as practitioners who coach children, deepens our pedagogical understanding, supports our theoretical background and integrates it with practice. These practices should be a priority within the coaching and teaching professions (Abraham & Collins, 2011; Timperley, 2008).



CONCLUSION

The issue between a skill-based or a game-based approach gains a deeper perspective. It is claimed that this deepening in teaching professions, coaching being one of these, is the 'basis for making on-going, principled decisions about practice' (Timperley, 2008). The two metaphors of learning respond to a broad theoretical debate. Deepening understanding towards these underpinnings and what lies behind the methods being used, empowers coaches in their task.

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RECOMMENDED ITF TENNIS ICOACH CONTENT (CLICK BELOW)

Tennis*i*Coach

Core Stability: Connecting lower core and legs

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ITF Coaching and Sport Science Review 2014; 64(22): 18-20

ABSTRACT

This article outlines some lower core and leg stability training exercises that will allow players to augment training regimens and use in home based and travel training. Players can maintain and improve lower core and leg stability with these functional exercises that work the muscle slings in closed and partially closed kinetic chain movements. These exercises are versatile, practical and transportable and can be used by a variety of different age groups including developing, professional and senior players.

Key words: core stability, functional strength, pre-habilitation, developing players, injury prevention

Article received: 4 April 2014

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Article accepted: 3 October 2014

INTRODUCTION

In the past two decades athletes at all levels and from different sports have been bombarded with “core” references and terminology. Core can mean different things to different coaches, trainers and health care professionals depending on their training, expertise and experience. For many “core” primarily means abdominals and they have had little explanation of what really qualifies as core and how to target different muscle groups effectively. As well, core training is often scheduled at the end of training sessions when the athletes may be too fatigued both physically and mentally to carry out the specifically prescribed core training.

Numerous muscles connect the ‘lower core’ lumbo-pelvic-hip complex and spine and the ‘upper core’ spine, ribs and scapular region. When activated and recruited properly this stable upper and lower core forms the foundation for all movements of the extremities. The first muscle to be recruited prior to any movement is the transversus abdominus which normally switches on in pre-anticipation of movement. But with dysfunction there is a timing delay and studies have shown that without efficient and optimal recruitment, subsequent spinal dysfunction can occur (Richardson & Jull, 1995).

The core muscles attach in groups forming functional slings from the hips through the lumbo-pelvic (lower core) to the scapulo-thoracic (upper core) regions. Four slings of muscle systems have been described in the literature (Vleeming et al, 1995) (Snijders et al, 1993), these are the posterior oblique sling, the anterior oblique sling, the longitudinal sling and the lateral sling. These slings of muscles help transfer energy from the ground through the legs to the core (trunk) to the upper body and arms. Unfortunately, many commonly prescribed tennis exercises are machine based and involve or isolate a single joint only allowing movement in one plane of motion. Without full kinetic chain involvement and muscle sling recruitment, they are not effective in connecting the core and meeting the specific demands of the modern game.

Tennis is a sport with high demands in all physical components including flexibility, aerobic stamina, anaerobic power (alactic and lactic), strength, speed, agility and technique. With increased participation by ever younger developing athletes we must be proactive in how we train these athletes. We must take steps to ensure that the windows of optimal trainability (Balyi & Hamilton, 2003) are met for all of the physical components responsible for tennis performance.

Training for tennis requires players to utilize quick movements that pass through many planes of motion and create rotational and torsional forces on numerous joints and muscles at the same time. The average point duration in tennis is reportedly less than ten seconds (Morante & Brotherhood, 2005; O’Donoghue & Ingram, 2001; Smekal et al, 2001). On average, 3 to 5 directional changes are required per point, and it is not uncommon for players to perform more than 500 directional changes during a single match or practice (Roetart & Kovacs, 2011). As well, in ‘professional players’,

it was found that more than 70% of movements were side-to-side with less than 20% of movements in forward linear direction and less than 8% of movements in a backward linear direction (Weber et al, 2007). If the players alignment, balance control, connected core stability, deceleration strength and extended hip stability required for these movements is not optimal they may be at risk of injury.

INJURY CONCERNS

Very few competitive players in tennis make it through an entire season without experiencing some form of lumbar and torso issues or lower extremity and upper extremity injuries associated with kinetic chain weakness and/or malalignment syndrome issues (Petersen & Nittinger, 2013). This malalignment syndrome can be exacerbated by the unilateral (one sided) nature of tennis strokes since in the modern game seventy five percent of the strokes are forehand or service motion placing abnormal rotational and deceleration stresses on the dominant side (Petersen, 2009). Malalignment syndrome also puts athletes at increased risk of injury and once injured, they are likely to take longer to recover or may even fail to do so at all (Schamberger, 2002). Weaknesses and imbalances of the core have been related to low back pain (Akuthoto & Nadler, 2004) and lower extremity injuries (Ireland et al, 2003). As well, a longitudinal study looked at core stability parameters and found that weakness in hip external rotation was correlated with incidence of knee injury (Leetun et al, 2004) and that decreased hip flexibility in rotation or strength in abduction (positive Trendelenburg) was seen in 49% of athletes with arthroscopically proven posterior-superior labral tears (Burkhart et al, 2000).

CONNECT THE LOWER CORE & LEGS

For tennis athletes, using closed chain free-weight, resistance band, physio ball or medicine ball exercises with varying levels of balance stability should be included as exercises to train the lower core and leg stability. These exercises help ensure proper muscle balance in the lower core by emphasizing exercises that are often overlooked and add additional force vectors of resistance to traditional training methods. Utilising closed and partially closed chain exercises with varied resistance to increase stability of the posterior oblique and anterior oblique sling helps improve the athletes’ ability to accelerate and decelerate a swinging motion. Adding additional exercises to promote involvement of the lateral and longitudinal sling will further help to connect the lower core and legs improving overall stability.

Benefits of Connect the Core Stability Training

- Improves postural set and helps maintain correct pelvic alignment.
- Improves strength of functional muscle slings that connect the upper and lower core.
- Improves joint and muscle position sense (kinesthetic awareness), helping to center the joint and absorb stress.
- Improves stability in a functional hip-extended position.
- Improves ability to counter-rotate or dissociate the upper and lower torso and extremities.
- Improves dynamic balance and movement efficiency.
- Adds additional force vectors of resistance to traditional training methods.
- Helps to improve athletic performance and helps the body to be able to react to unexpected events.
- Provides exercises that are versatile, practical, transportable and affordable.

Table 1. Benefits of Connect the Core Stability Training (Petersen & Nittinger, 2013).

The prescribed exercises should be individualised to the age, experience and fitness level of the athlete. As a general rule start with 1-2 sets of 10 repetitions and progress to 2-3 sets of 15 repetitions. Use a slow tempo with emphasis on the eccentric (lengthening) phase of the exercise. For example doing a squat with a 3-0-1 tempo it is 3 seconds down (lengthening) 0 hold and 1 second up (shortening).

Precautions for Core Exercises

Resistance Bands Precautions	Exercise Ball Precautions
<ul style="list-style-type: none"> • When using resistance tubing or bands, ensure they are of high quality. • Avoid placing resistance bands near heat or in direct sunlight. • Avoid sharp objects and jewellery • Start gradually and get a feel for the resistance of the bands before progressing or increasing the tension. • Regularly inspect the stretch band or tubing for wear and tear or weak spots and replace as appropriate. • Ensure that it is securely attached before applying resistance. 	<ul style="list-style-type: none"> • For individuals new to exercise, check with your physician before starting this or any other exercise program. • Check your ball for flaws before each use. • Avoid placing ball near heat or in direct sunlight. • Avoid sharp objects and jewelry. • Start gradually and get a feel for the ball before progressing.

Table 2. Exercise ball and resistance bands precautions.

WARM UP AND BRIDGING EXERCISES

Before starting this or any exercise routine do some light dynamic warm-up exercises like assisted squats followed by some lying hip work and some bridging exercises. Your goal during warm up is to have a light glow on or have sweaty underarms.



Figure 1. Assisted Squats.

Training tips:

- Hang onto something for balance taking some weight through your arms
- Switch on your core muscles
- With feet pointing straight ahead squat down slowly like sitting down in a chair
- Keep knees aligned over toes but not going past them
- Do 2 sets of 10 repetitions with a 2-0-1 tempo.

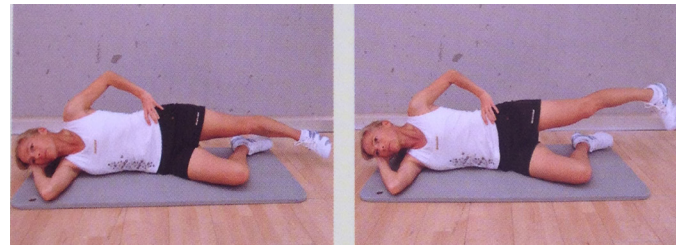


Figure 2. Side Lying Hip Abduction.

Training tips:

- Start lying on your side with bottom knee bent and top knee straight
- Switch on your core
- Point toes down to floor on top leg & raise leg up
- Do 2 sets of 10 repetitions with a 2-2-1 tempo
- Raise up hold for 2 seconds and down slow for a 2 second count.

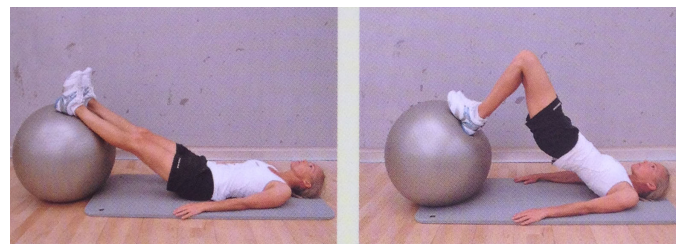


Figure 3. Supine Bridge & Hamstring Pull.

Training tips:

- Start lying on your back with lower leg & feet on a physio ball
- Place a ball between knees & squeeze lightly
- Switch on your core muscles
- Bridge up hips & pull ball towards buttocks & hold for 2 seconds & return to start position
- Do 2 sets of 10 repetitions with a 1-2-1 tempo.

CONCLUSION

This selection of lower core and leg stability exercises promote strength in regions of the lower core and leg musculature that are often weak as a result of training and playing overuse that results in fatigue, active trigger points and palpable tissue tension. This includes muscles the hip abductors (gluteus minimus and medius) (Chandler & Kibler, 1992) and the local 'inner unit' muscles of the core (multifidus, quadratus and transversus abdominus) (Kibler et al, 2006). By utilising simple equipment like balls and bands to challenge and augment the functional slings we can help players develop a stable lower core and leg platform for the extremities to skillfully move in all directions and accelerate and decelerate efficiently.

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Tennis*i*Coach

Customer service within the tennis industry

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ITF Coaching and Sport Science Review 2014; 64(22): 21-22

ABSTRACT

In the leisure industry customer service is a vital part of generating new business and retaining existing customers. Tennis organisations and teaching professionals are key components in delivering and promoting quality customer service within the tennis industry. Customer service can be achieved in several ways both on court and off court and is fundamental to the growth and success of an organisation.

Key words: customer retention, customer service, relationships, tennis industry

Article received: 9 October 2014

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Article accepted: 28 November 2014

INTRODUCTION

Interestingly, it was not until the late 1980s that service quality became recognised as a major area of research in the sport industry (Crompton, MacKay, & Fesenmaier, 1991). Since this recognition, service quality has become an underpinning factor for the success of the tennis industry. Nowadays, many sport organisations are competing for customers and attempting to satisfy them through a high level of customer service (Yong & Pastore, 2005). Within sport organisations, teaching professionals are fundamental to the high level of customer service.

Why is customer service important in the tennis industry?

Customer service can be defined as the provision of service to customers before, during and after a purchase (Tennant, 2014). Customer service quality and customer satisfaction are central concepts that generate new business and retain existing customers. Most companies acknowledge that they can only survive when they have customers and can only grow when they manage to retain existing customers and recruit new ones (Schmitt, 2003). The tennis industry is no exception, customers are a company's most valuable asset, therefore the tennis programme should be structured and managed around them (Schmitt, 2003). Tennis professionals continue to succeed when they focus on the customers' experience and key requirements are taken on board to satisfy the customer's needs. Teaching professionals are key ingredients that impact the customers' experience and have tremendous impact on the customers' perception of the quality of the service and subsequent profitability (Fulford & Enz, 1995).

HOW TO UNDERSTAND CUSTOMERS

Communication is vital between teaching professionals and customers in the tennis industry. Teaching professionals should aim to create an environment that is safe, fun and positive for the customer. There has been evidence that suggests that when a customer is satisfied with the quality of service that they are receiving their behavioural intentions are positive, strengthening the relationship between themselves and the organisation (Zeithaml & Bitner, 2003). A teaching professional will achieve this success through their attitude and reputation both on court and off court. Building a positive professional relationship will increase the likelihood of customer satisfaction. A positive relationship can be achieved through managing expectations, goal setting and creating an engaging environment in which customers can learn or play the game. Teaching professionals within the tennis industry must identify their audience and adapt accordingly. For example, interacting with a junior tennis player and their parents will be different to an adult tennis player and their reasons for playing must be taken into consideration. The motivation to participate in tennis, in an ever increasing segmented leisure market, can vary between genders and age groups and identifying these reasons will enable the service to be personalised. The personalisation and adaptability that the teaching professional demonstrates leads to a feeling of uniqueness and value for the customer.

A negative experience can be detrimental to the organisation or teaching professional. It must be remembered that customers are not short on alternatives. If a customer is not satisfied other options can be sought or even a new activity could be taken up in their highly prized leisure time. Quality customer service can be the deciding factor of the success of a sport organisation (Yong & Pastore, 2005) and longevity of a partnership so an organisation should never take their customers for granted.

It would be unrealistic to think that customers are satisfied at all times. Despite a best effort, things might not work out. The criticism and complaints from customers are extremely useful feedback if used productively. Complaints can highlight areas that were previously overlooked or deemed as less significant but which the customers think are important. Complaints and criticism that are used in a constructive way can be used to give organisations and teaching professionals a second chance to improve services and products. It is often an indicator of how a teaching professional or organisation can differentiate themselves from their competitors and the feedback is knowledge about what can be done to better themselves (Martin, 2010).

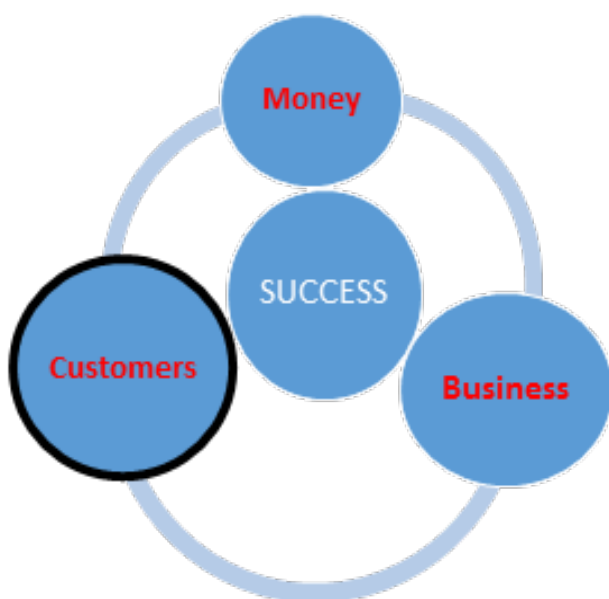


Figure 1. The important relationship between success and customers.



GIVING A GOOD SERVICE

Table 1. below shows six recommendations for teaching professionals to ensure good customer service in provided.

Six ways to ensure quality customer service	
Personal equipment	A teaching professional should ensure that all personal equipment and teaching aids are in excellent condition. It is imperative to make sure all balls are in good condition ahead of lesson time and if the lesson requires the use of technology, this should be charged appropriately and in a working order that meets safety requirements. Lessons run smoothly and safely when equipment standards are high.
Personal presentation	A teaching professional should be neat, clean and have a well groomed appearance. An outsider should be able to clearly identify the teaching professional by their appearance. Effort should be made in order to ensure clean teeth, hair and skin.
Politeness	At the end of each lesson, thank them and establish your next meeting date and time. Your lesson should be the best hour of the week for your students. Take time to watch people play and be willing to offer a quick tip, a word of encouragement or an acknowledgment of their progress between their lessons with you.
Punctuality	A teaching professional should always be on time for lessons or appointments and be respectful of everyone's time by starting and ending promptly.
Preparation	Ideally, the teaching professional should aim to arrive at least fifteen minutes prior to the lesson to prepare for the arrival of the customer, set up the court, review notes or ensure that the facilities are open and ready for play.
Personalisation	It is key to initiate the relationship with friendly introduction. A teaching professional should greet every customer with a smile and welcome them to the lesson, whether they are a returning customer or new. When working with new customers it is important that a teaching professional learns their name and uses it frequently. Personalisation allows customers to feel at ease and it is recommended that teaching professionals learn things that are important to them such as family, career or hobbies.

Table 1. Six recommendations to increase customer service standard and customer satisfaction.

CONCLUSION

Teaching professionals have a constant and daily impact on the lives of customers, imparting knowledge, instruction and feedback both on and off court. Customer service is an essential part of the tennis industry helping to generate new business and retain existing customers. A teaching professional can create a positive environment that fosters growth and satisfies the customers by ensuring that they make the customer feel welcome, unique and special. It is important to remember that within the tennis industry customers have a choice, whether that be to change organisations or to take up a new activity in their leisure time.

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RECOMMENDED ITF TENNIS ICOACH CONTENT (CLICK BELOW)

Tennis iCoach

Coaches are role models: Tales of influence

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ITF Coaching and Sport Science Review 2014; 64(22): 21-22

ABSTRACT

This paper examines the notion that coaches are role models and exert considerable influence in the development of a player's tennis, character and life skills. Suggestions for coaches to be positive role models are presented.

Key words: coach, role model

Article received: 1 October 2014

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Article accepted: 1 November 2014

INTRODUCTION

All coaches are representatives of the sport and in a position of power and influence especially when dealing with young impressionable players. Accordingly, it may be timely to review what role models are, why they are important and what coaches might do to be the best role model they can be.

What is a role model?

Although numerous definitions of role models can be found in the literature, all definitions embrace the notion that they are persons who motivate, inspire or assist/support others to engage in similar behaviour (Payne, Reynolds, Brown & Fleming, 2002). Role models set standards and are points of reference for others.

Who are role models?

Parents are generally considered the dominant role models especially for children. The extent of their influence is thought to change over time as significant others, such as teachers, coaches, peers, celebrities, emerge as 'persons of influence'. There is evidence that both boys and girls are more likely to embrace a role model of the same gender. This is understandable in terms of closer similarity and identification with a same-gender role model.

HOW CAN ROLE MODELS INFLUENCE OTHERS?

The potential influence of role models is wide and pervasive. They can impact on another person's thoughts, feelings, values, attitudes and/or actions. How might they do this? Very simply, any or many of their behaviours are imitated, adopted or embraced by others. It could be for example what they say, do, wear, how they conduct their coaching sessions/business or how they live their life. In this context it is reasonable to see that not all influences are necessarily positive. Some may well be negative being unlawful, unethical, amoral, disrespectful and/or destructive (e.g. well-known personalities who are reported in the media for drink-driving, match fixing, doping offenses or disorderly conduct).

What does this mean for coaches?

A coach's influence can extend well beyond the tennis court and into life itself. This is clearly illustrated by Rafael Nadal in his tribute to his coach Toni,

"... everything I have achieved in the game of tennis, all the opportunities I have had, are thanks to him. I'm especially grateful to him for having placed so much emphasis from the beginning on making sure I kept my feet on the ground and never become complacent... he pushes me always to improve and do better" (Nadal, 2012, p.263).

The importance for coaches to be positive role models has been vigorously promoted by the legendary US basketball coach John Wooden, who is widely credited as the greatest coach of the 20th century. Some of his key messages to coaches/teachers are listed in Table 1.

Key Messages to Coaches

- Being a role model is the most powerful form of educating. Youngsters need good models more than they need critics.
- Your main responsibility as a coach is to set an example
- A leader's most powerful ally is his or her own example. Leaders don't just talk about doing something; they do it.
- No written word, no spoken plea
 - Can teach our youth what they should be.
 - Not all the books on all the shelves.
 - It's what the teachers are themselves.
- We need models that are good, positive models.
- Remember that you represent others who are responsible for you as well as yourself and your personal appearance and conduct should not reflect discredit in any way upon yourself or upon those whom you represent. Cleanliness, neatness, politeness, and good manners are qualities that should be characteristic of those who are of great influence on young people and you certainly qualify for that category. Be a good example.
- Changing lives (of those we coach) matters most.

Table 1. Advice to coaches/teachers from John Wooden (1997) about the importance of being a positive role model/example.

The messages in Table 1 highlight not only the considerable responsibilities coaches have to those they teach but also the opportunities afforded in being a positive role model. It is a chance to guide, enthuse, motivate, inspire and support players to develop their strengths and potentials, character and creative efforts to be the best they can be, or want to be, both on and off the court. It is a chance to have a lasting legacy in the lives of those who you coach.





WHAT CAN COACHES DO TO BE POSITIVE ROLE MODELS?

It is critical that coaches are aware of, understand and embrace their responsibility to be positive role models. To this end a number of suggestions are presented for consideration in Table 2.

Recommendations (adapted from Wooden & Jamison, 1997; Young, 2009)
<ul style="list-style-type: none"> •Genuinely care about your players and prioritise the development of your players as people –embrace developing character and helping players develop to their full potential as your most important endeavours •Emphasise and reward a player's best efforts (versus wins/results on the scoreboard) at training and in competition •Emphasise and exhibit exemplary qualities including determination, hard work, resilience, passion, integrity, honesty, fair play, respect, equality and inclusion •At all times adopt lawful, ethical, moral and healthy practices in your coaching and life outside of coaching - commit to the ITF Code of Ethics for Coaches (or adapted version adopted by your tennis club or National Association). 'Practice what you preach'. Lead by example (versus directing and instructing) •Adopt the 'Golden Rule' – treat others as you would like them to treat you. Give of yourself/help others without necessarily expecting any reward •Learn from the past but live in the present – be optimistic about the future •Love and enjoy your coaching – appreciate that you are in a 'select' group who has the ability and opportunity to coach. Openly show your enthusiasm for the game and coaching •Commit to professional and personal development (eg. attending training courses, reading the latest information in coaching, consulting respected peers and finding a mentor). Challenge yourself to be a life-long learner •Give your best effort in every lesson and task you undertake •Prepare and plan carefully and thoroughly. Attend to the detail as little things matter – get yourself well organised and very good at time management •Be consistent and keep an even keel under pressure - ensure the valleys are not too low and the peaks not too high •Be patient - good things require time to happen •Attend to your appearance (clean, neat etc) •Be punctual, courteous, thoughtful and respectful. Take a genuine interest in others and actively listen to what they say. Invite others to share their views and questions.

Table 2. Recommendations to coaches: How to be positive role models.

CONCLUSIONS

All coaches are role models (Lyle, 2013). While this carries responsibilities it also affords coaches opportunities to positively influence players in developing their games, character and life skills. Nothing can be more rewarding to a coach than to receive acknowledgement and appreciation for the critical role he/she played in a player's tennis and life. Such acknowledgement and appreciation were clearly evident in Novak Djokovic's recent tribute to his first coach, Jelena Gencic at the time of her death,

"Jelena was my first coach, like my second mother. We were very close throughout my whole life and she taught me a lot of things that are part of me, part of my character today. Hopefully I will be able to continue with her legacy, because she left so much knowledge to me, to the people that were close to her. I feel a responsibility to continue doing that in the future because she worked with kids between five and six years to 12 or 13. She dedicated all her life to that generation and to tennis" (The Independent, 2014).

Tennis will never look better than when its coaches fully embrace the opportunity to positively influence others by being the best person they can and capably coaching to the best of their ability.

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Tennis iCoach

Laterality in tennis

Eduardo Vicencio (Mexican Tennis Federation, Mexico)

ITF Coaching and Sport Science Review 2014; 64(22): 25-26

ABSTRACT

The purpose of this article is to present an overview of laterality and its influence on tennis strokes. Laterality refers to the preference of the human being to use one side of the body instead of the other one to perform different activities. This preference is present in daily activities when we write, play tennis and so on. Everybody prefers to perform activities with one hand, one arm or one leg in particular.

Key words: laterality, ambidextrous, dominance

Article received: 1 July 2014

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Article accepted: 15 November 2014

INTRODUCTION

Laterality has recently interested many coaches. As regards tennis, research is still at an early stage of development and it will take some time to gather more scientific research on this matter. The brain is a complex machine made up of two hemispheres between which a great communication is necessary for any kind of motor activity. The left hemisphere, among other things, controls the right part of the body, while the right hemisphere is responsible for the left part of the body. Although the brain receives visual and auditory information in both hemispheres simultaneously, there is a preference to use one eye or one ear over the other one. It is still uncertain when the individual acquires a right or a left dominance. There are explanations based on genetics, on tests made at birth, and others that consider that the social and family background have a significant impact on laterality. But, laterality is acquired at pre lateral stages just as shown in Table 1.

Name of the stage	Characteristics
Mono-laterality	Period between birth and 6 months old. There is no relation between one side of the body and the other one. This stage is marked by the tonic reflection of the neck.
Dual laterality	Period between 6 months and one year old. Asymmetric functioning between both sides of the body but no relationship between them. The child works on the middle line of the body but does not go beyond.
Contra-laterality	1-6 years old. Coordinated and voluntary but asymmetric function. Motor control, posture balance and motor coordination are developed. Both hemi-bodies work exactly the same way. It is at this point that preferences of one side of the body over the other one occur.
Uni-laterality	After 6 years old. Final process in which preference becomes dominance.

Table 1. Development of laterality stage (Caña & Sánchez, 2003).

During the process of growth of the human being, laterality is one more element of the individual and it will always exist as a fundamental part. Rigal (2012) states that "with the lack of appropriate stimulation, available at certain ages, nervous cells do not evolve and nervous circuits do not achieve their maximum functional value". The lack of a good physical education in early development stages (3-10 years) has a direct impact on the motor coordination capabilities and laterality of the individual.

LATERALITY AND TENNIS

Tennis related research has concluded that there exist some parts of the body like eyes, shoulders, arms, hip, legs and feet that have a certain laterality and are very important when moving, hitting, turning and getting a greater space temporal perception of the body and the environment.

The different types of tennis specific laterality are summarised in Table 2.

Type of laterality	Description
Homogeneous	When the dominant eye and the hand used to play tennis are on the same side.
Crossed	When the dominant eye and the hand used to play tennis are in different sides.
Inverted	When a right handed or left handed player has learnt to use his/her non-dominant hand to play tennis.
Ambidextrous	When the dominance of both hands is not defined and a player can use both hands to play tennis relatively easily.

Table 2. Different types of laterality in tennis.

The coach or trainer must determine their players' laterality. There exist various tests which are described below:

Ocular laterality: Hold a sheet of paper with your hands. Make a 0.5 cm diameter hole in the centre of the page, focus your eyes on a certain object, stretch your arms holding the paper, look at the object through the hole. When you can see the object through the hole, close first one eye and then the other one. The eye that sees the object will be the dominant eye. Another way of doing this is when approaching the paper to the face, the hole goes to a particular eye, this eye will be dominant.

Laterality of the shoulder: The player stands facing a wall, his feet parallel to the wall. His hands on the wall with stretched arms. The coach stands behind the player and throws a ball for him to turn without moving his feet from the ground. If the player turns left, his laterality is right, if he turns right his laterality is left.

Manual laterality: We will consider dominant hand the one the player uses to play.

Laterality of the hip: The player stands with his hands on his waist and his feet shoulder width apart. Then, he will jump and make a 360° turn without moving his hands. He will turn right and left. If he finds it easier to turn right in good balance he will have a left laterality, if his balance is better when turning left, he will have a right laterality.

Laterality of the leg or the dynamic leg: The player makes a scissors jump with both legs stretched, jumping on a not very high object. The player will tell the coach which leg he jumps more comfortably with. The first leg to go up will be the dynamic or dominant one.

Laterality of the foot or leading foot: It is the foot that will preferably be used to kick a football.

Table 3 summarises the influence of each type of laterality in tennis strokes.

Type of laterality	Influence on tennis strokes
Homogeneous (considering the foot and the hand)	<ul style="list-style-type: none"> •Better sense of direction towards the backhand side. •Tends to use extreme grips like an extreme western •Tends to hit the forehand late. •Feels comfortable hitting a sliced return. •Turns his body quickly to hit a forehand. •Hits the forehand better from an open stance. •Hits the backhand in front and with the centre of the racket. •Can hit the backhand from closed positions. •He structures his tactics and is fond of planning. •He plays from the baseline and sometimes counter attacks. •He plays a down the line forehand and a cross-court backhand. •He has no problem with the one handed backhand. •He is a regular player
Crossed	<ul style="list-style-type: none"> •He has a better sense of direction from the forehand. •He is a player who attacks. •He tends to hit a late backhand. •A better two handed backhand. •He feels more comfortable hitting a down-the-line backhand and a cross-court forehand. •He does not use extreme grips. •He is better hitting the backhand from an open or semi-open stance. •He can hit the forehand properly from a square stance. •He tends to play forward or inside the court. •He is a creative but irregular player.
Shoulder laterality	<ul style="list-style-type: none"> •Right shoulder (natural turn towards the left), left shoulder (turns more naturally to the right). •Right handed player with a right dominant shoulder (or a left handed player with a left dominant shoulder). -It facilitates the open stance forehand. -It facilitates the rotation of the body in service. -It does not facilitate an open backhand. •Right handed player with a left dominant shoulder (or the other way about). -It facilitates the open stance backhand.
Laterality of the hip	<ul style="list-style-type: none"> •Right handed player with a right dominant hip (or a left handed player with a left dominant hip). -It facilitates the open stance forehand. -It facilitates impulse and rotation of the body in service. -It facilitates lateral movement (recovery) after hitting a forehand (if he is right handed) or a backhand (if left handed) at the time of crossing the step and recovering. •Right handed player with a left dominant hip (or the other way about). -It facilitates a backhand in open stance.
Laterality of the leg	<ul style="list-style-type: none"> •Right handed player with a left dynamic leg (or a left handed player with a right dominant leg). -Facilitates a powerful service with a separate stance. -It facilitates the backhand impulse in open stance to transfer the force of the ground. -It could not transfer the weight of the body from the left leg (dominant) to the one in front in the backhand with a closed stance. -It could transfer the weight of the body from the back leg (non dominant) to the one in front in the forehand with a closed stance.

Table 3. Influence of the different types of laterality in tennis strokes.

CONCLUSIONS

Even though research on this subject is still at an early stage, we know that the non-dominant side of the body can be improved by means of appropriate training. Even though in professional tennis no laterality can guarantee a better performance, coaches should know more about it in order to be able to help their players to provide more accurate and appropriate responses to the demands of modern tennis.

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Tennis iCoach

Recommended books

Trabajando Con Jóvenes Tenistas



ITF
Miguel Crespo
Gustavo Granitto
Dave Miley

TRABAJANDO CON JÓVENES TENISTAS

Author: Miguel Crespo, Gustavo Granitto, Dave Miley. **Language:** Spanish. **Type:** e-book. **Level:** Beginner to advanced level. **Year:** 2014.

‘Trabajando Con Jóvenes Tenistas’ is now available in Spanish online in e-book format. It is an ITF manual for coaches or parents of tennis players between 10 and 14 years old. It presents the fundamental principles of the ITF programme of working with tennis players up to 14 years old. The e-book has more than 50 exercises focussed on junior player development. If you are a parent, player or coach this manual is essential to better understand the development process of junior players.

THE GOLDEN DAYS OF TENNIS ON THE FRENCH RIVIERA 1874-1939

Author: Alan Little. **Language:** English. **Type:** 464 page book. **Level:** Beginner to advanced level. **Year:** 2014.

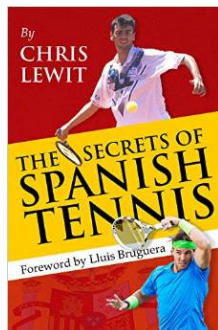
‘The Golden Days of Tennis on the French Riviera 1874-1939’ relates the ‘golden’ days of the period, from the beginning in 1874 up to 1939 and the Second World War. It summarises play at some 450 international tournaments spread along the shores of the Mediterranean, where over the years more and more players competed from all parts of Europe and a few from beyond. In the rear of the book full tournament schedules and the names of the winners of all level events can be found. Also presented are histories of the participating clubs and brief biographies of the principal characters over the years. This is a remarkable insight into the history of tennis over the last 140 years coupled with photographs of historical tennis players, clubs and tournaments. A great reference book for any researcher and an invaluable addition for any tennis enthusiast.



TENNIS COORDINATION EXERCISES

Author: Peter Farrell. **Language:** English. **Type:** 132 page book. **Level:** Beginner to advanced level. **Year:** 2014.

As a coach, player or parent it is important to understand the significance of coordination in any sport. Coordination is a principle skill in tennis. ‘Tennis Coordination Exercises’ is a collection of games and drills designed to focus on key areas of coordination including balance, agility and speed. Each exercise is explained through illustrations and a description of equipment, progressions and adaptations. Peter Farrell draws from personal experience and highlights fun and involved exercises for children. Key pointers are mentioned to ensure safety and full engagement of the children taking part in the exercises. Advice is given for the coach to guide the drills and indications for changing and progressing exercises when working with children. A great read for any coach or parent working with children or developing players.



THE SECRET OF SPANISH TENNIS

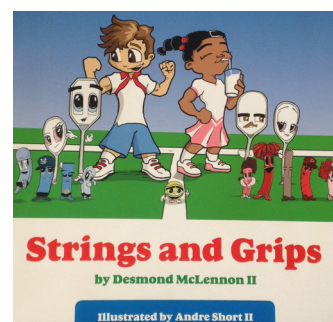
Author: Chris Lewit. **Language:** English. **Type:** 240 page book and e-book format. **Level:** Beginner to advanced level. **Year:** 2014.

USTA High Performance Coach Chris Lewit investigates the reasons that make the ‘Spanish way’ of teaching tennis so effective. He accounts personal experiences with top Spanish academies and interviews leading Spanish coaches. Five years of study and thorough research on the Spanish way of training helps coaches to understand what it takes to be successful and why the Spanish historically and presently continue to produce world class players. Numerous drills, techniques and philosophy are discussed providing a clear explanation of the unique and special training methodology in Spain. An insightful read for any coach looking to expand their knowledge and philosophy of the game.

STRINGS AND GRIPS

Author: Desmond McLennon II. **Language:** English. **Type:** 30 page book. **Level:** Beginner level. **Year:** 2011.

‘Strings and Grips’ encourages children to have fun playing tennis and teaches the rules of the game. In a colourful and illustrated book ‘Strings and Grips’ is an informative introduction of tennis for children. Children learn about how strings and grips work together in the game of tennis and follow character in a journey through tennis. It is tool to get children up and moving.




PREPARACIÓN FÍSICA PARA TENIS FEDERACIÓN MEXICANA DE TENIS

Author: Eduardo Vicencio. **Language:** Spanish. **Type:** 232 page book. **Level:** Beginner to advanced level. **Year:** 2014.

A physical training manual tailored specifically towards the athletic development of tennis players. The manual includes drills to introduce starter players to the physical aspects of the game as well as more challenging exercises for advanced players. Extensive research and intense study of the physical needs to compete at a high level is complimented by personal experience and hands on training showcased throughout the manual. Photographs demonstrate good technique and starting/ending positions. Periodisation, nutrition and fitness testing are covered. This is a helpful manual for coaches, trainers and players to find new exercises to incorporate into programmes.

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