

# Six good reasons to keep your eye off the ball

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## INTRODUCTION

Despite the tennis community has a much better understanding of the principles of mental training (for a review see Weinberg, 2002; Crespo et al. 2006), the vast majority of mental-oriented studies are dedicated to manage the pre-match, post-match or between-point time. However, if the mental skills are important during the off-task time which represent 80% of current matches (Moran, 1994), when the player hits the ball certainly remains the decisive part of the stroke (Brabenec and Stojan, 2006). In fact, not many people have suggested what are the relevant mental states needed during the hitting phase. This is due in part because the ball is seen as the only 'natural' cue.

However, great player's behaviour shows us that the ball is not always the relevant cue. Indeed, they differ significantly from lower ranked players in having a longer fixation on the ball combined with a fixation on the contact zone until the end of the follow through, whereas in the same time most of the professionals seem to abandon the ball with their eyes as it approached the hitting zone (Yandell, 2005; Murphy, 2007; Lafont, 2007). It is well illustrated by Roger Federer focusing on the contact zone at - and after - impact, holding his head still and in the direction of the contact zone.

In tennis, maintaining the head on a vertical axis and keeping the upper body stabilised is recognized as one of the characteristics of high-level players (Elliot, 1989; Groppe, 1986). In particular, keeping the head still during the preparation phase and at impact helps insure better balance and a consistent hit on the center of the strings (Braden and Bruns, 1977; Saviano 2003).



*Roger Federer*

More than these physical effects, the recent observations tend to go in favour of the mental benefits to control the head position and prolong the fixation of the contact zone to the entire duration of the follow-through. Thus, the main objective of this study was to examine the relationships between gaze and head **fixation on the contact zone** (fixation in the remainder of the article) during the hitting phase and mental states of potential relevance in high level competitive tennis such as concentration, control or confidence.

## 1. CONCENTRATION

A common error of most tennis players is to believe that they have to be concentrated with the same intensity throughout the match. In fact, the problem is not to stay focus but to know how to **refocus** efficiently, i.e. to refocus on the most relevant cue.

The pioneer work of Gallwey (1974) suggested that during play a ball-focusing technique helps to reach concentration. However, due to physical limitations (speed of the ball and visual acuity) (Stein and Slatt, 1981), ball-focusing is not always the most relevant strategy.

To cope with these limitations, two significant studies (Braden and Bruns, 1977; Ford et al., 2002) suggested a shift of focus from the ball to the contact zone. According to them, concentration can be improved not only by watching the contact zone, but also by the fixation of this zone until the end of the follow-through. So, it is essential for concentration to well

keep the eyes some fraction of seconds on where the impact takes place.

## 2. CONTROL

Mentally efficient players remain in control or at least feel in control (Higham, 2000). However there are many areas where players can experience a loss of control: wind, sun, temperature, spectators or types of playing surface. If the player fixates on them, this will take his focus out of the game, and at the same time increase his anxiety. So, it is important for the player to recognize what Jackson and Csikszentmihalyi (1999) named 'the controllables'.

What is entirely within his control is how he chooses to react to what happens. In particular, the player can control the strategies and the techniques of performance, i.e. having a **process focus** which takes the mind off things that cause over-intensity and gives a greater sense of control.

The fixation allows such process focus because it teaches a certain ritual of repetitive body movements which gives the player the feeling that everything is under control. In addition, fixation allows the player to exclude irrelevant thoughts and to tune into the task at hand, but also sends a sign of control to the opponent. Thus, achieving the fixation leads to better control.

## 3. STRESS AND ANXIETY

Under stress people forget the more recent instructions causing them to revert to old software which impacts their stroke production. To cope with pressure, top players often employ individual routines based on relaxation, breathing or self-talk (Weinberg, 2002).

Another way to reduce the anxiety is to redirect the focus onto the process (Taylor, 2000). Fixation - considered as a process focus - giving the player more control can be an efficient way to counteract pressure. Indeed, by focusing on mechanics the player will deflect

emotional content from the moment and he will not fall victim to motor paralysis. Instead, he will be able to send messages to his brain that will allow him to hit the ball correctly. This control reduces the stress response and ultimately frees the athlete from fear of failure.

#### 4. STAYING IN THE PRESENT

Under stress the greatest lapses in concentration come when the player allows his minds to project what is about to happen or on what has already happened. Hence, the ability to stay mentally in the present is the key to being focused in a match (Girod, 1999). Many athletes often refer to it as being in the **'here and now'** (Higham, 2000).

The usual ways to practice the maintenance of moment-by-moment focus during a match is to learn meditation, yoga or deep breathing (Quinn, 2004). During play, what is very helpful in tennis is that before long the player is going to hit the ball what would bring back to the present. However, tennis players often lift their eyes and pull their head up before the ball even reaches the racket. Such behaviour consisting to immediately follow the first part of the ball trajectory can be interpreted as the sign that the player mentally plans too soon in the future.

The fixation after the impact helps the player to stay in the "here and now." Focused on present, the physical sensations usually remain stable (Murray, 1999), what reinforces the feeling of control. In a sense, gaze and head control provides an extended period of control.

#### 5. CONFIDENCE ENHANCEMENT

Concentration and control can only be achieved if the player has confidence in what he is doing. Self-confidence is one of the most important components of a player's psychological state prior to and during a match (Harwood and Dent, 2003).

Self-confidence is the general belief that one has the ability to perform successfully (Weinberg and Gould, 1999), for example, the confidence in one's own strokes (Samulski, 2007). Since the fixation phase is the same regardless of whether the player is winning or losing, it reinforces the player's belief that he has the skill necessary to perform well. Using specific and repetitive body and visual control during points, he can maintain a confident mental attitude then execute

strokes under increasing competitive pressure. Therefore, even during the hitting process, the player can gain confidence in his abilities.

#### 6. ZONE

Once the player feels confident, his mind is free to focus on the task at hand, one of the main components of the special internal mental state named flow or peak performance (Le Scanff, 2003). In tennis terminology, this is commonly called "playing in the zone" (Young, 2000, Ford et al., 2002).

Focusing on the contact zone could be viewed as an efficient process (or performance) routine which reinforces the concentration on the task at hand and the sense of control, both fundamentals dimensions which best describe the mind-set in flow. In addition, maintaining fixation helps follow a natural rhythm while hitting the ball, resulting in more fluid stroke production. Thus, by allowing the delicate synergy between some key mental states, the fixation would promote flow and therefore would have a positive impact on performance.

#### CONCLUSION

This article supports the hypothesis for head and gaze fixation as a fundamental tennis skill allowing optimal mental states. More precisely, the idea underlying this study is that great players' fixation on the contact zone help them to achieve efficient and consistent concentration during play. Fixation during the follow-through will also help keep focus on the task at hand which leads to increase the feeling of control. Specifically, this control can impact the hitting response which in the past was believed to be out of control because of visual limitations. Fixation helps to control both the emotions and thoughts reducing stress and anxiety, therefore increases self-confidence. In addition, the after-impact fixation stage participates to the fixation of the player in the present, what promotes flow and would have a positive impact on performance.

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