TIMING IS EVERYTHING: A COMPREHENSIVE ANALYSIS

Understanding the Fundamental Role of Timing in Tennis

INTRODUCTION

Tennis is often characterized as an 'impact sport' within the realm of motor learning. This designation highlights the critical importance of the ball's impact as the defining moment in every shot. Whether through precise footwork, preparation, or technique, all elements converge on this singular point. If the impact is functional, you are playing tennis. If all the rest is great but the impact is off, you are losing, making timing the cornerstone of technical proficiency in tennis.

TACTICAL CONNECTIONS

Although timing is fundamentally a technical concept, it is inextricably linked to tactical considerations. In tennis, technical execution serves tactical objectives rather than existing in isolation. As a result, players do not earn points merely through aesthetic strokes but by effectively responding to a tactical challenge. This dynamic is encapsulated in the 'Tactics-first approach'—a coaching philosophy prevalent in Canada and aligned with the internationally recognized Game-based approach.

Since tennis is not only an 'Impact Sport' but also a 'Game Sport', tactics are a requirement to playing successfully. Viewing the game from a ***tactical-technical*** perspective, the ***mission*** of tennis can be succinctly defined as follows:

This mission underscores timing as an essential skill, not only for achieving technical precision but also for addressing tactical demands.

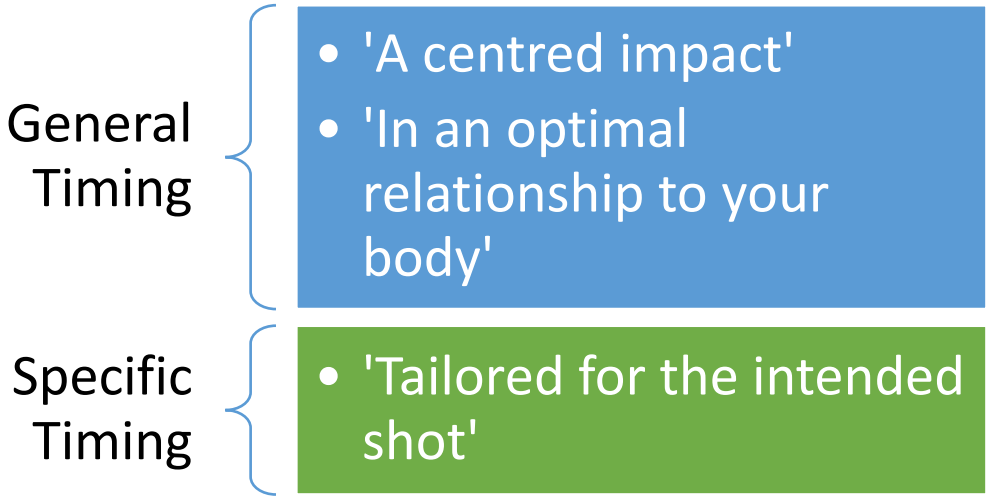
TIMING DEFINITION & COMPONENTS

'Timing' is the term used to describe key factors related to the ball/racquet interaction at the impact. My working definition of timing is:

"A centred impact, in an optimal relationship to your body, tailored for the intended shot."

This definition can be divided into two segments:

- General Timing: Applicable to all shots, focusing on centering the ball and maintaining an optimal impact relationship with the body.
- Specific Timing: Tailored to the unique requirements of individual shots, exploring variations across different axes of impact.



The two-part definition is helpful as a coach may choose to work on timing in an overall general sense (e.g., when players are doing a live-ball cooperative drill). Coaches may also work on a specific shot where the timing elements must be precisely learned (e.g., a backhand crosscourt angled underspin drop shot).

Let's explore the elements in each part:

GENERAL TIMING:

'A centred impact': '
This includes centering the ball on the responsive area of the strings. Hitting off-centre directly affects the quality of the ball sent. This is why one of the most repeated and ancient pieces of tennis advice is; *'watch the ball.'* Or, more accurately, track the ball to the impact and keep the head still to maximize all the advantages of our visual systems.

'In an optimal relationship to your body.'
Establishing an optimal relationship between the body and the ball is essential. Poor impact positioning—whether too close, far, high, or low—compromises control over the ball's height, direction, speed, spin, and distance.
(For an article on the 5 Ball Characteristics, click here).

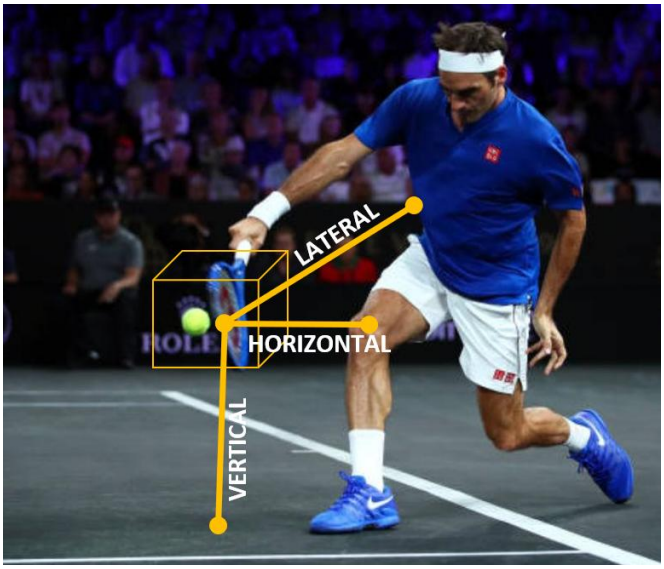
If one imagines a 3-dimensional box around the impact point, There are three key relationships a player must make with the ball. We can define these relationships on three 'axis' (or 'planes'):

Vertical: Height of the ball's contact relative to the player's body(e.g. shoulder height, waist level, knee level, etc.)

Horizontal: Where the ball is impacted back-to-front in relation to the player's body and the net (e.g. late, early)

Lateral: Distance between the ball and the body at impact (e.g. 'jammed,' stretched)

Understanding this allows coaches to observe, analyze and improve the quality of the Impact point.



(For Timing Observation Sheets, click here: Groundstrokes, Serves)

SPECIFIC TIMING:

'Tailored for the intended shot.'
Each shot necessitates distinct timing adaptations across the vertical, horizontal, and lateral axes. For example, although both of these shots are 'Forehands' their impact points are different.

AXIS	Shoulder-height/inside-out, level power forehand.	Heavy topspin/angled Forehand.
Vertical	Shoulder-height	Waist-height
Horizontal	Out 'front'	'Beside' the body
Lateral	Arm extension (away from the body)	A 'medium' comfortable distance from the body

ADVANCED TIMING COMPONENTS:

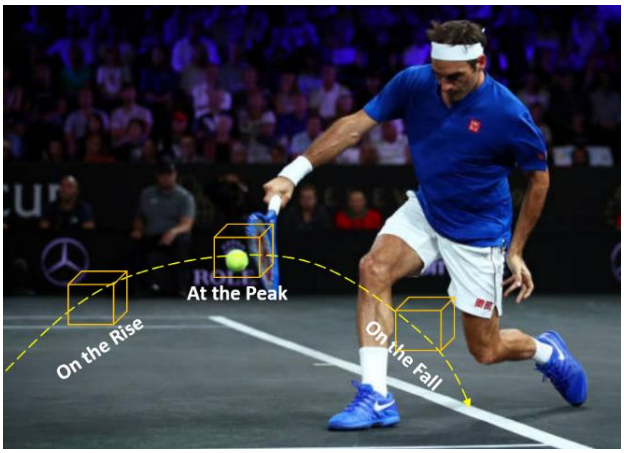
Although all of timing is linked to tactics, there are two additional ***tactical*** components that add to the 4 technical components which, all together, make up the entire timing package:

TIMING COMPONENTS	
TECHNICAL	**TACTICAL**
1. Centered	5. Bounce relationship
2. Vertical Impact Point relationship	6. Disguise
3. Horizontal Impact Point relationship	
4. Lateral Impact Point relationship	

Bounce Relationship: On groundstrokes, controlling timing relative to the ball's bounce to tactically manage time:

Players can take the ball:

- 'On the rise.'
- 'At the peak.'
- 'On the fall.'



Disguise: Advanced players can leverage timing to mask shot intentions, making anticipation more challenging for opponents. One of the ways opponents can anticipate our shots is by our relationship to the impact. For example, if a player impacts the ball early, lower, and in front, the ball will likely go crosscourt. To thwart any anticipation, a player can 'hold' their timing, not committing to an impact point on the outer edges of any of the three axes, making it far more difficult to 'read.'

FACTORS INFLUENCING TIMING

Several key factors influence a player's timing, and it is important for coaches and athletes to be aware of how these elements interact:

- **Grip:** The type of grip a player uses directly determines the optimal point of contact for each shot. For instance, a player using a full Western grip will have an ideal impact point that is different from one using an Eastern forehand grip, especially during rally groundstrokes.
- **Height of Impact:** The height at which the ball is struck affects the lateral distance between the player and the ball at contact. Higher impacts (such as at shoulder level) generally require the ball to be struck further away from the body, while impacts at hip level allow for closer contact.
- **Stroke Sensation:** The intended "feel" of a shot alters the location of the impact point. For example, when executing a 'touch' feel volley (such as a drop volley), the ideal contact point is closer to the body. In contrast, a more aggressive 'Hit' feel volley is played further in front. (Click here for a detailed article on Stroke Sensations)
- **Intended Spin:** The desired spin on the ball dictates the necessary relationship between the racquet and the impact point. Topspin shots require precise contact locations, while underspin (or slice) shots are more forgiving, allowing for a broader range of acceptable impact points. This is one reason why underspin is often used for defensive shots.

"Grips dictate swing paths and swing paths dictate contact points."
Dr. Mark Kovacs – Sports Science Consultants, Biomechanical expert

TIMING AND ADAPTATION

The critical capacity for mastering a shot is not the ability to create robotic movements but ***adaptation***. The other technical aspects of the stroke need to function in relation to timing. Professional players will sacrifice the 'form' of their stroke for their timing.

However, the majority of regular players tend to sacrifice their timing to attain a certain form. Other secondary technical elements (e.g., racquet preparation, swing shape, follow-through) are frequently given precedence over timing, making the less significant dominant over the vital.

> ***"Professional players sacrifice their stroke 'form' for their timing. Regular players tend to sacrifice their timing for their stroke 'form'."***

TIMING AS THE LINK BETWEEN RECEPTION AND PROJECTION

Every shot is a cycle of events including what a player does to receive the ball ('*Reception*') and what is done to send the ball ('*Projection*'). **Aside from the serve, tennis is a game of reception *then* projection.**

If a player does not receive the ball well, the sending of the ball will be proportionately poor. Timing is the moment that ties together the two halves of a shot.
(For a link to the article on the cycle of a shot, click here)

- **Reception:** The ***perception*** and ***setup*** required to achieve an optimal impact point. A player needs to 'read' the characteristics of the oncoming ball (Perception) then set-up (perform the appropriate footwork, bodywork and racquet preparation) to execute the appropriate timing for the shot.

- **Projection:** Is everything a player does at the Impact Point. Closely related to the fundamental of timing are the P.A.S. Principles which stand for racquet **path**, **angle** and **speed** at Impact. (For a more detailed article on the P.A.S. Principles click here).

  The goal of timing is to biomechanically maximize the potential to control the racquet P.A.S., which controls the ball to achieve tactical objectives. For example, if the impact on a serve is too low and back, it hinders the ability to control the ball for an effective serve.

DEVELOPMENT IMPLICATIONS

Timing is a key factor that determines the level of a tennis player. Beginners often struggle because they can't establish consistent timing, which leads to inefficient positioning and poor shot quality. Their inability to relate to the ball properly hampers their ability to solve tactical challenges.

Intermediate players show improvement in timing. They can position themselves better and hit shots that can disrupt their opponent's rhythm.

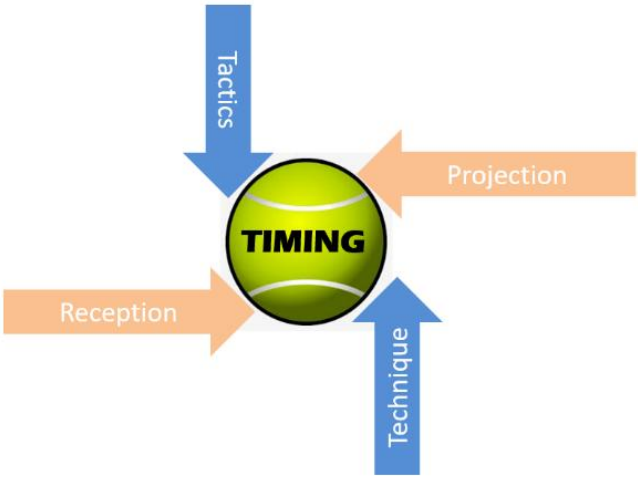
Advanced players, on the other hand, excel at using timing in complex situations. They adapt quickly, making it hard for opponents to break their timing.

Improving timing is essential for a player's growth, yet it often gets overlooked among other technical aspects. While many technical skills are valuable, timing remains the most important factor that influences all others.

CONCLUSION

In conclusion, timing is the cornerstone of tennis, bridging the technical and tactical demands of the sport while underpinning a player's ability to succeed. It is both a fundamental skill and a determinant of overall player development.

From a tactical-technical perspective, tactics rest on the fact that tennis is an impact sport (therefore requiring skilled timing) and much of technique is in function of ensuring good timing.



Timing is a ***'nexus point'*** for the whole sport, where tactics & technique and reception & projection all intersect.

By mastering timing, players enhance their ability to receive and project the ball effectively, adapt to varying challenges, and ultimately elevate their game.
By understanding the definition and components of timing, a coach has essential tools to develop players who have consistent and effective shot-making abilities while addressing the broader tactical and technical needs of the sport.

Timing is, without a doubt, the defining axis around which all aspects of tennis revolve.
Timing is everything!

Two acecoach.com timing videos cover these concepts and provide practice ideas:
Timing is Everything part 1: https://youtu.be/wqlqPVyAAMs
Timing is Everything Part 2: https://youtu.be/zYAql8EIF-g