

WELCOME TO COACHES REVIEW!

Welcome to issue 14 of ITF Coaches Review which features articles from some of the presentations made at the 10th ITF Worldwide Coaches Workshop held in Puerto Vallarta Mexico from 17 to 24 November 1997. The subjects covered include a contribution from Don Chu from the United States on circuit training for improving change-of-direction speed in tennis. Paul Dent and Anne Pankhurst from Great Britain cover the topic on biomechanics and technical analysis, Louis Cayer from Canada explains singles tactics, while a systematic approach to the development of club and performance players is illustrated by Frank van Fraayenhoven from Holland. There is also a short article by Frank Zlesak from the Czech Republic on the importance of the revision of concepts and fundamentals for successful coaching. Miguel Crespo from the ITF covers the topic of mental training for tennis players and Bernard Pestre from France presents the interesting topic of improving the game through tactical situations.

In our section on recommended educational material, we report on new and interesting books and computer software dealing with tennis at all levels.

We hope that the articles in Coaches Review continue to generate a lot of discussion among coaches around the world. If any of our readers are interested in commenting on any of the articles published in Coaches Review we would be happy to receive your letters, and if we feel your comments are of interest, we may publish some readers' letters in future issues.

Once again we would like to thank all those coaches who have contributed articles for this issue of ITF Coaches Review. If you have any material that you deem relevant and worthy of inclusion in a future issue, please forward it to us for consideration.

We do hope you enjoy our 14th issue of Coaches Review.



Dave Miley
Executive Director, Development



Miguel Crespo
Research Officer

REVISION IS THE MOTHER OF ALL WISDOM

by Frank Zlesak (Czech Republic)

The main goal of this article is to revise the most "influential" principles presented in recent workshops; those that essentially determine the effectiveness of daily practice.

These teaching principles include the following:

- Positive atmosphere increases effectiveness of practice
- Learn through playing the game (natural tennis skills), correct through exercises/drills
- Importance of asking questions/involving the players
- 70% praise and 30% criticism (correction), inner and outer feedback
- Importance of correct work/rest ratio (match-like practice)
- Importance of high aerobic endurance for fast recovery from match fatigue and between points
- Correct stroke mechanics (kinetic chain, etc.)
- Control of mental tension through rituals
- In practice work more (concentrate; improve) on your weapons than on weaknesses
- With young players prioritise fast swing (racket speed) instead of consistency

- Correct co-ordination of the tossing and the hitting arms in the serve is important
- Soft wrist with low volleys
- Importance of proper wrist action for racket head acceleration prior to contact with ball
- Dictate the game, win as many points as possible
- Importance of an aggressive second serve return; need to practise the return of serve
- Work proportionally on all "5 game situations"
- Maintain high quality practice at all times
- Importance of coach's self-discipline
- The ultimate goal is to create an independent player - make the player responsible

I think I can safely say that most of the above principles, should influence to some degree our daily work with players; if we follow this pattern, we cannot fail to do our coaching job well!

SINGLES TACTICS

by Louis Cayer (Canada)

INTRODUCTION

The purpose of this article is to make coaches aware of tactical training for players under 13 years old. It is aimed at group training, not private coaching. The main points covered include:

1. Tactical planning for technical development
2. Tactical planning: diversification before specialisation
3. Tactical training: developing patterns of play
4. Tactical training: decision-making
5. Other considerations.

1. TACTICAL PLANNING FOR TECHNICAL DEVELOPMENT

At this stage, we often view the training of technique as the main priority with playing points or games coming second. In actual fact technical training should be introduced as a means to an end - to succeed tactically.

The coach should design his annual plan around the competencies that he would like his juniors to have at the end of the year ie. the game situations and the patterns of play he would like them to have mastered in several months from now.

Eg. Groundstrokes: the coach may want his athletes to develop over the year the tactical ability to move the opponent around. This could demand the development of the following patterns and the corresponding technical shots:

- a) Take control of the point from the middle of the court
- b) Grooving great diagonals (crosscourt)
- c) When to get out of the diagonals i.e. changing direction for a down-the-line shot
- d) To open up the court with an angled shot
- e) Drop-shot followed by a lob or passing shot
- f) The x pattern

In order to develop these patterns, technical aspects will need to be introduced. However this technique must be seen as a tool to play the tactic more effectively.

So the tactical objective should first be chosen eg. taking control of the point from the middle of the court by moving the opponent side to side. To develop this pattern, an important technique will be the use of the forehand using disguise to enable the players to hit effectively crosscourt or inside out. At the beginning, it is acceptable for the coach to groove the forehand technique with some basket feeding, but players should move on to cooperation drills amongst themselves as soon as possible. Live feeding is superior to basket feeding. Therefore we could do live feed ball by doing 2 on 1 drills where the 2 players hit to the middle and the player hits to the corners. Various types of drills are possible but by the end of the technical acquisition the coach should finish up with playing situations involving the serve and return.

a) Specific playing situation: On the deuce side, player A serves wide, player B returns to the middle. Player A then plays an inside out forehand into the open court. Many variations of this scenario are possible as long as Player B returns to the middle of the court to initiate the tactical objective.

b) Real playing situation: The coach observes to see if the skills learned are implemented in a game situation ie. to check that the server is looking to control the point by hitting an attacking shot whenever the receiver returns to the middle of the court.

2. TACTICAL TRAINING: DIVERSIFICATION BEFORE SPECIALISATION

There are times where it is possible to help individual players to specialise a specific game style. But for group club programs a coach may gear the year long program to patterns of play based around the 3 major methods of putting pressure on the opponent:

- a) Moving opponent around
- b) Using the big forehand
- c) Coming to the net

Indicated overleaf are 9 patterns for each of the above categories to show the various options. The youngster experiments tactically and technically with these options and may decide he prefers some options to others. If we only select one option or game style, we may force the youngster into a game style that doesn't fit his psychological and physiological profile.

Ideas on annual planning for singles tactics for under 13 groups: Before developing a specific game style, the juniors should be exposed to different options. Outlined below are patterns grouped around 3 major themes corresponding to 3 different game styles. We should also remember that patterns can be developed from any of the 5 basic singles game situations ie. serving, returning, rallying from the baseline, approaching the net or passing. Each of these 5 basic situations should be trained in order to prepare the player tactically and to address the different strokes associated with each situation.



	MOVING OPPONENT AROUND	USING THE BIG FOREHAND	COMING TO THE NET
1	Serving wide	Serve position and recovery	Serve-volley
2	Return away from the middle	Return: running around backhand	Serve and look to come in
3	Taking control from the middle by hitting corner to corner	Return position and recovery	Return "chip and charge"
4	Grooving the diagonals	Imposing a high forehand tempo	Return "drive and charge"
5	Changing direction	Running around the backhand	Approach shot
6	X pattern	Moonball – drive	Attack followed to the net
7	Drop-shot and lob	Getting into the forehand diagonal	Sneak in after drop-shot or
8	Open court volley	Modifying position	Intercepting moonball
9	Wrong-footing shot	Opening up the court	Fake to come in

Once you have your 27 options you can decide to combine them in different ways according to your coaching style. You can use all those associated with one game style or you can combine the options as soon as possible eg. from 3/4 court you can make the player either place the ball, drive the ball or come to the net.

3. TACTICAL TRAINING: DEVELOPING PATTERNS OF PLAY

Tactical training is required to develop the mental side of the game - decision-making, anticipation and percentage tennis, point construction with patterns, etc. ... The focus should be at all times to develop game styles, to present tactics for surfaces, environment, score, types of opponents, etc. ...

But at some stage we should develop on court for any of the above options, some patterns to implement the tactical information. What is a pattern?

Developing patterns is more than just presenting a task. We need to be able to know how the point was constructed to set up a particular situation and what pattern follows this situation in order to know what to work on both tactically and technically.

In an open-skill process of perception - decision - execution, it is very important to develop patterns in order to make decision-making automatic so that the player is able to perceive the situation and execute the appropriate shot quickly. In a game where speed increases, the need for patterns also increases. We should note that not only does technique need to be automatic but so also does decision-making. This is why the development of a specific game style with its correspondent patterns is so important.

Patterns: These are used to develop automatic or conscious decision-making for tactical point construction. There are various types of patterns that can be developed:

- **One shot selection:** ie. always return a wide serve crosscourt.
- **Shot before the shot to be trained:** ie. before (set up: moon-ball) for the actual shot (big forehand).
- **Shot after the shot to be trained:** shot (big forehand) with the shot after (coming in to volley).
- **Combination of shots: (excluding the set-up shot or the shot after):** X pattern and drop-shot and lob.
- **Adapting the tactical concept to patterns for all 5 game situations if possible:** i.e. If we want to use a big forehand, how will we construct the point to use this shot effectively from each of the 5 game situations: serving, returning, approaching the net, passing and rallying from baseline.

4. TACTICAL TRAINING: DECISION-MAKING

Tennis requires a lot of decision-making:

- **Before the tournament, before the match or before the point:** Considerations include: environment; opponent's game style; my game style; the score. Some of these decisions are made automatically and others have to be considered as play is unfolding.
- **During the point:** The players need to have been exposed to some decision-making situations beforehand because the coach might say from his chair, "Look to come in more", but what will the player be "looking" for, or "Use your forehand more," but how will the player do this, etc? The coach has to help the player to recognise what to look for.
- **Training decision-making during pattern development:** This helps to develop the skill of making decisions under pressure when required as we know that most of our patterns will be automatic. It can accelerate the learning curve and avoid no decisions, late decisions, wrong decisions, etc..

Notes: Elements to consider when training decision-making during the point:

- **5 ball control (when receiving):** Eg. How you play a backhand approach shot may be determined by the type of ball you receive. If you are hitting the ball from a position close to sideline, you may choose to go down-the-line but if you are hitting the ball from the middle of the court, you may choose to go crosscourt.
- **5 ball control (when sending):** Eg. If you feel your drop shot is great, you might try to sneak in 3/4 court but if you miss-played the drop shot, you might retreat a bit more behind the baseline.
- **Opponent movement or position:** When opponent is stretching you, sneak in.
- **Personal movement or position:** When I create a good forward momentum on the 2nd serve return, I should follow it into the net.

5. OTHER CONSIDERATIONS IN TRAINING SINGLES TACTICS

Even when working on other aspects of the players' development, you can establish a link with tactics.

- **Technical:** when learning a new stroke, introduce tactics in the very beginning by showing what happens before, during and after the stroke in a game situation so that the player quickly understands the point construction. For example when teaching a one handed slice backhand, you may start with a self-drop ball at mid-court but as soon as the student gets the feel of the shot set up a game situation to illustrate that playing a slice approach makes it easier to volley or smash the following shot.
- **Anticipation:** It is important to coach anticipation for two reasons: 1) it is a must for advanced tennis and 2) it helps to develop the sense of disguise and variations when playing.
- **Physical:** Tactics also involves being tougher, faster, stronger than the opponents in order to reflect that tennis is a sport of combat and we have to be able to outlast and outperform our opponents
- **Psychological:** develop the proper psychological attitude related to tactics. Dominate; take control; pressure, courage etc.

TECHNICAL ANALYSIS: USER-FRIENDLY BIOMECHANICS

by Paul Dent and Anne Pankhurst (Great Britain)

1. INTRODUCTION: THE ROLE OF BIOMECHANICS IN TENNIS

Tennis is a simple game... not necessarily an easy game but none the less a simple game. So with that in mind we intend to keep this article on "coach friendly Biomechanics" simple and for us that will be easy because we're tennis coaches not rocket scientists.

Becoming more comfortable with Biomechanics and its implications for tennis is very important because tennis is an open skilled sport. Unlike a closed sport like gymnastics where biomechanical knowledge is known to be influential, and the techniques very uniform and standardised, tennis we feel provides a greater variation on the same basic technique, often because of a tactical need and therefore a greater challenge to the coach.

Tennis components can be broken down into technical, tactical, physical and mental. In this article we are going to cover the technical side of tennis and, more precisely, we are going to deal with several concepts on technical analysis.

One of the most important prerequisites of a tennis coach is to be practical and learner friendly. When working with players, all tennis coaches should be ready to make technical decisions technically decide between STYLE and FUNCTION. We are all unique but we are all governed by the principles of Biomechanics. STYLE is personal to the player and each player has his own characteristics that define his style of play.

FUNCTION relates to the biomechanical principles players use to play tennis. To make the is important technical decision, the coach will need both an UNDERSTANDING and KNOWLEDGE of Biomechanics.

An UNDERSTANDING of Biomechanics allows coaches to better understand strokes and movement in terms of function (WHAT they must do) and make technical "trade-offs" with players style (HOW they will do it). A KNOWLEDGE of Biomechanics leads coaches to make better technical analysis of movement (power or control, the likelihood of injury). This understanding and knowledge helps provide a short cut to developing experience necessary to analyse and develop advanced techniques.

2. BIOMECHANICS: A DEFINITION

Biomechanics can be defined as the study of human motion. By determining the most effective movement patterns required for stroke production, a tennis biomechanist can then analyse a player's efficiency of movement and try to determine whether a player could perform more effectively. A true understanding of Biomechanics will help you to answer the key question:

"What is optimum technique?"

Optimum technique can be defined as that which allows for the most efficient combination of power and control in both stroke and movement technique whilst minimising the risk of injury.

In analysing and developing the technique of players, a good understanding of Biomechanics will help coaches to avoid focusing on idiosyncratic and cosmetically displeasing features of a stroke (i.e. the look of the stroke) but instead will help them focus on the effectiveness of the stroke.

3. BIOMECHT

If we don't educate coaches about practical Biomechanics how can they effectively reflect upon and discuss with other coaches and their own players the possible advantages and disadvantages of many of the common discussion points in tennis technique such as:

- Open vs. closed stance on groundstrokes
- Racket led takeback on the forehand groundstroke vs. an elbow led takeback
- Looped takeback vs. straight takeback
- Leaning back on groundstrokes
- Fast sudden immediate action or gradual build up action on the serve
- How soon to prepare on groundstrokes
- To pre-set or not to pre-set on the backhand
- To approach off the one handed backhand using a carioca step or by having the back leg come around so forming more of an open stance platform
- The slight modifications needed to perform an effective counter attack when running wide on the two handed backhand

Knowing a little about Biomechanics allows us as coaches to:

- Understand what is **actually** happening in strokes and movement
- Have more confidence when working with older experienced more inquisitive players and dealing with their questions
- Make technical trade-offs in our coaching

When you watch a player's technique you're probably thinking of concepts such as: balance, power, control, use of the body parts, contact point, fluent technique, linking of body movement, speed of movement, changes of direction, etc. To encompass all these characteristics and principles of technique we have developed the acronym **B.I.O.M.E.C.T** for use as one of our coaches education tools.



Paul Dent during his presentation at the 10th Worldwide Coaches Workshop

- **BIOMECHT** stands for:

- B**alance - the stability, either static or dynamic of a body
- I**nertia - the reluctance of a body to change motion (to start or stop);
- O**pposite force - for every action there is an equal and opposite reaction;
- M**omentum - the quantity of a body's motion which is a product of it's mass and velocity. It can be straight (linear) and circular (angular)
- E**lastic energy - extra energy achieved in muscles and tendons when they are stretched
- C**o-ordination **c**hain - the co-ordinated use of the body's segments in a sequence or chain
- T**orque - a force which creates rotation

To efficiently analyse technique and monitor changes, a developing coach requires some form of systematic checklist in order to help him short cut experience. BIOMECHT has proved to be an excellent coach education tool because it develops the links between technique and the need for physical conditioning, co-ordination training and prevention of injuries.



Let's take a more practical approach: If we want to simplify these biomechanical principles for the daily work with our players, we have to ask ourselves: "Does this player need power and/or control? If we know the answer to this question, we can decide which principles of BIOMECH are most relevant and try to apply them in a proper way.

4. THE POWER-CONTROL CHECKLIST

In this article we will integrate aspects of the BIOMECH checklist with more commonly used coaching technical terms to design a checklist for Power and Control. The reason for this is that we have found that if you use a checklist which is solely biomechanical then there can be a tendency for coaches to miss certain basics such as the contact point eg hitting late..

The checklist includes the following aspects:

- The number of body segments (parts) used in the action
- The appropriate sequence of their use
- The speed and distance over which these segments are travelling
- The activation of large muscle groups
- The contact point allowing fluent co-ordination

This list can be used to help with the technical analysis of a given stroke. The coach should determine how many body segments are used in the action, if they are used in an appropriate sequence, the speed and distance over which these segments are travelling, the activation of large muscle groups during the action and the special characteristics of the contact point.

5. TECHNICAL TIPS FOR GROUNDSTROKES

Consider how aspects of the "Power-Control" checklist might be influenced by the following teaching aids:

- Try to feel a slight shift of the feet (ie. a slight lift off the ground) upwards and forwards during the hit
- Look like a discus thrower when you hit a forehand, not a javelin thrower
- Instruct players who step into the ball too soon on the backhand to time their weight transfer better by moving onto their front feet immediately prior to the hit

6. CONCLUSION

We will become more skilful technical coaches when we avoid looking at starting positions and idiosyncrasies and focus our attention more on the principals of the "Power-Control" checklist. We as coaches should encourage our players to hit their strokes with **EASE**.

Economical - relaxed and minimising risk of injury
Assist future development - technical limitations should not be placed on young players
Simple
Effective

Most successful modern players do!

ON-COURT CIRCUIT TRAINING FOR IMPROVING CHANGE-OF-DIRECTION SPEED IN TENNIS

by Donald A. Chu Ph.D. (USA)

Moving laterally is inherent to tennis. The ability to change direction quickly is essential to success in this sport. This outline will deal with the basic components of improving the ability to move laterally, backpedal, and start forward quickly.

The type of conditioning that is most appropriate for accomplishing improvement in this area is similar to, but not exactly the same, as in the development of linear speed.

The purpose of this article is two fold: First, to discuss the various movements of the lower extremities required on the tennis court. Then, to present an on-court circuit training program that would enhance each of these movements, using minimal equipment.

From a biomechanical perspective the placement of the body's center of gravity (C of G) is extremely important. When players want to be stable, they lower their C of G, by assuming a wider stance (the base of support is roughly that area between the two feet). This increases the base of support and drops the hips into a lower position.

However when an athlete wants to move in any direction quickly, the C of G must move towards an edge of the base of support so that the athlete becomes more unstable. When this happens the athlete moves from a stable position to being unstable. In this way, the athlete can more rapidly start their movement, whether forward, backward or laterally. When athletes are "anticipating" a direction in which to move, they will shift their weight or C of G towards the edge of the base of support in which they intend to move. Correctly anticipating your opponents movement, the flight path of a ball, or the direction of a particular play is the result of "reading and reacting". This ability is developed with time, experience and the correct coaching of movement cues that the athlete learns to recognise. This goes a long way in improving the start speed of the tennis player.

Another important factor in the development of speed while changing direction is the ability to develop **ground reaction forces** quickly. This force is the result of synchronous coordination in pushing against the ground rapidly. These ground reaction forces are necessary to decelerate the body from one direction and accelerate the body in another direction.

Thus, as the tennis player pushes against the ground and the ground pushes back (action-reaction) a force is generated which is transferred to the rest of the body through the kinetic chain formed by the limb segments and their respective joints.

Before discussing other exercise essential for proper strength and the development of ground reaction forces, let's look at some of the common movement that tennis players make when initiating a change of direction movement.

STARTING (READY POSITION)

This is a position common in many sports. When an athlete assumes this position it is the starting point for all movement. It is a position in which the C of G is over the base of support. The spine is slightly extended, the head is up and the eyes are forward. The knees are slightly bend (to approximately 40-50 degrees), and the weight or C of G is shifted slightly forward onto the balls of the feet on anticipation of movement change.

This position is the precursor to the **"first step"**. The first step in tennis often determines what happens during the course of the next few seconds of play. If one is guarding an opponent on the basket ball floor and your first step is slower than your opponents you will probably be beaten to the basket for the lay-up score. In pursuing the flight path of a ball, such as in tennis, a slow first step may mean you never get in position to return the ball.

In addition, to develop the ability to "read and react", an effective first step is a matter of developing **"impulse"** forces against the ground. These are forces applied rapidly and over a brief period of time (.10-.12 seconds). The ability to develop impulse forces is specific to the type of training performed. All humans have a genetic potential for the development of speed of movement. However, the types of training utilised have been proven to be very successful in maximising this genetic potential. **Reaction time** is defined as the amount of time it takes the human sensory system to perceive a stimulus and then create movement action from the motor system. This is essentially the neural "hardware" or wiring system, and this is remarkably common to all athletes or non-athletes.

Movement time on the other hand is dependent upon a combination of anticipation, recognition and force development. It is the latter that strength training and plyometrics have such a large role in improving. When discussing movement other than linear or forward running, we have to consider the variety of steps available to the tennis player:

CHANGE OF DIRECTION

Change of direction requires strength and balance. Maintaining a low center of gravity that is evenly distributed between both feet and positioned over the base of support, gives both balance and stability to the athlete. The actual change of direction occurs when the tennis player shifts their C of G to the edge of the base of support and prepares to become unstable (move).

This is a subtle movement and results in the player shifting their body weight to the inside as they simultaneously push off the outside leg. This sequence is reversed as they move back and forth. Mentally, the player is concentrating on landing on the outside leg and "loading" it with resistance prior to pushing in the opposite direction. Loading the leg means dropping the C of G slightly and using the stretch of the muscles in the landing leg as the signal to reverse the muscle action and push back in the opposite direction.

CROSS-OVER

The cross-over step is usually initiated when there is a "sense of urgency" associated with the movement. The movements are used when the tennis player wishes to turn and run in a lateral direction. Shuffling or sliding will not get them there quickly enough they must turn and run in a linear fashion even though they initiate the movement while facing a different way. These movements are the result of an eccentric lowering of the body on an extended, narrower base of support. Because the base of support becomes more narrow, control or balance can be difficult to maintain or achieve. The deep flexion of the hips and knees during the initiation of this move will increase the use of the gluteal muscles and the adductor/abductor muscles of the hip.

RECOVERY STEP

The recovery step is extremely important in developing speed of movement on the court. Once the player commits to a cross-over step, but then wishes to reverse direction, a "recovery" step is required to be performed. Recovery steps require the body use eccentric or decelerating actions with concentric or accelerating muscle action. An example of how a tennis player might utilise a recovery step is explained as follows: A right handed tennis player at the net has just hit a forehand volley utilising a cross-over step with the left leg. In order to recover their ready position, they might pivot on the left leg and swing the right leg around to regain balance and then push off in the opposite direction. A more accomplished athlete, however, might decelerate the body by using the cross-over or left leg both eccentrically and concentrically. After crossing over with the left, they absorb the impact of landing using eccentric strength, then push off the leg, using the hamstring muscles in a concentric fashion to extend the knee and regain the ready position. The result of the more accomplished athlete is a saving of half of a step and a decrease in movement time.

SHUFFLE STEP

This movement is the result of a slight "counter movement" in the hips, knees and ankles, accompanied by a shifting of the C of G to the edge of the base of support. This allows the tennis player to raise the center of gravity enough to allow the feet to clear the ground and movement to be initiated in a lateral direction. There is very little flexion in the hips, knees, and ankles, yet it is an effective way of moving laterally, and still being in a position to react to other changes that might occur.

Although this type of movement is small in amplitude, it still requires concentration and strength development to be effective at moving rapidly. Finally, lateral change of direction is a movement skill that can be developed in the young athlete. It is important that attention be paid to detail during the technique development. For example, during the teaching of the ready position, there are several opportunities for the young tennis player to commit errors or develop bad habits. Some of these are:

Standing with legs straight. This problem usually occurs with either inexperience or when fatigue occurs. Concentrating on building basic strength and sport specific endurance in the lower extremities should help to offset this error.

Bending forward at the waist Bending at the **knees** lowers the C of G, and creates stability; bending at the **waist** keeps the C of O high and on the forward edge of the base of support. This limits going in any direction other than forward. Lack of postural (static) strength in the lumbar areas of the spine can be a common problem here, so don't forget to strengthen the trunk area as well as the lower extremities.

Weight on the heels The weight of the athlete has to be shifted forward enough to be on the ball of the feet. Do not allow the athlete to bend forward at the waist, but instead work to be over the base of support in a position from which they feel they can move in any direction if asked to. Trunk strength plays an important role in maintenance of this position as well.

“Pistoning” This term refers to excessive up and down movement in the body of the tennis player prior to the initiation of movement. Usually seen only in young athletes, it is an attempt to perform a “counter movement” prior to initiating movement. The novice athlete will generally overestimate how much a “loading” or “cocking” motion of the body is required and will tend to bounce up and down excessively. They must be reminded that, “they cannot run if their feet are not on the ground”. In other words, they can not push on the ground and develop force against the ground if their feet are in the air and not in contact with the ground surface.

These common errors are easily correctable with proper coaching and preparation of the muscles and nervous system.

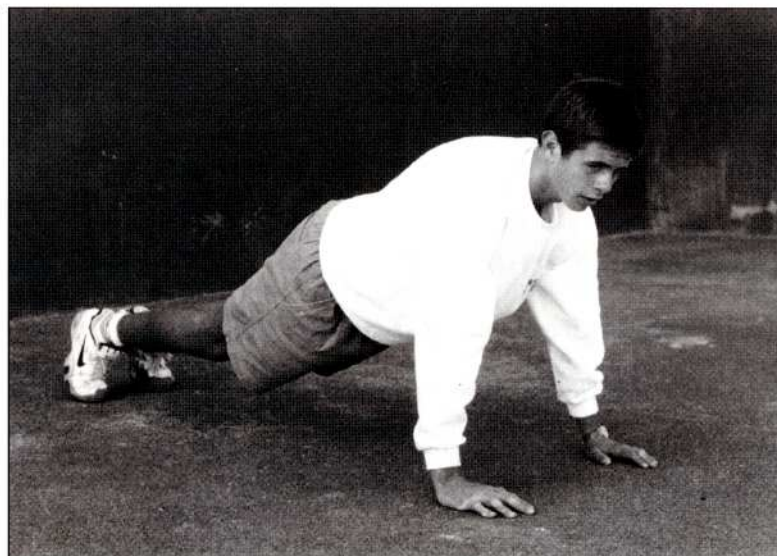
Many of the exercises that are useful for enhancing the skilled on-court movements can be effectively conducted on the tennis court as part of a circuit training program.

This involves placing the athletes at “stations” in which they will exercise for a certain amount of time or number of repetitions. The tennis player will work at each station for a specified period of time or number of repetitions, with a measured rest or recovery period between each exercise. Typically a 1:1 work/rest ratio is used. Assuming you want the athletes to work close to tennis specific periods, 15-40 seconds is realistic with a 30 second recovery period used between stations. The following is a sample of such a program:

ON COURT CIRCUIT TRAINING					
Station 1	Station 2	Station 3	Station 4	Station 5	Station 6
90 deg. squats	Push-up	Knee to chest	PullOver	Front lunge	Calf raise
¼ Squat jumps	Offset Push-up (R)	Offset Push-up (L)	Side Lunge	Triceps press	X-Over lunge
45 deg. lunge	Push press	Seated Row	Trunk twist	Single leg balance	Balance board
Superman	Upright row	Lateral push off	Lateral step up/over	Triceps push-up	Drop step lunge

Equipment needed:

1. Medicine balls
2. Resistance bands
3. Individual exercise bands
4. Step
5. Balance board
6. 4” Foam padtool.



MENTAL TRAINING APPLIED TO TENNIS

by Miguel Crespo (ITF)

I. INTRODUCTION

This article has the following goals: To define what mental training is, to show several characteristics of mental training: its components, goals and phases, and to apply some practical ideas on mental training in tennis.

2. MENTAL TRAINING

A definition of mental training can be the following: "Mental training uses psychological techniques and theories to enhance the performance and personal growth of tennis players" Williams (1984).

The main goals of mental training applied to tennis are to help players to enhance their performance, to have more fun and to be involved in extra-tennis activities.

A mental training programme should include some of the following characteristics:

- Specific goals
- Work on a group basis
- Recognise individual differences
- Be aware of the player's development
- Look for co-operation (tennis psychologist)

The phases of a mental training programme can be the following:

- Analysis of both the sport itself and the player
- Plan a specific programme for each player
- Goal setting, commitment and motivation
- Theoretical /practical work on and off court
- Final evaluation.

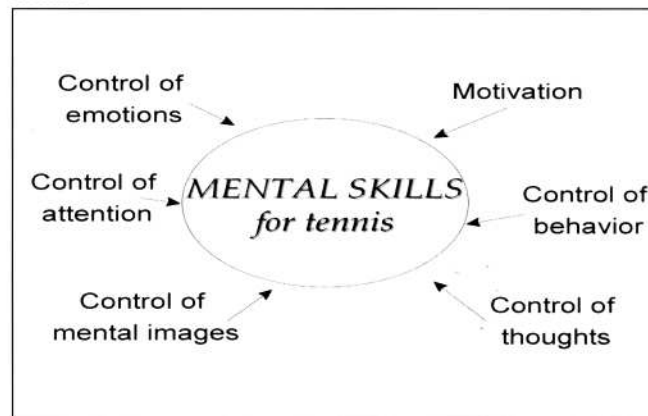
3. ANALYSIS OF THE GAME

Tennis is a mental game. Competitive tennis is 95% mental (Jimmy Connors). If a player wants to achieve top performance he needs to be mentally strong. Mental characteristics of tennis may include the following:

- Individual game
- No coaching allowed
- High percentage of fast decisions
- A lot of time to think during the match
- Don't know when you start/finish a match
- No substitutes permitted
- Knock out competition system
- Different surfaces
- Different continents
- Different types of balls
- The opponent is the umpire
- No off-season
- Ranking based on best results during different years
- No time-out decided by the player
- "Silent game" lots of concentration
- All shots are important

4. MENTAL ABILITIES AND MENTAL TECHNIQUES FOR TENNIS

The following chart includes the mental abilities needed for tennis:



The following table summarises some of the mental techniques needed for tennis:

Mental skill	Technique
Motivation	<ul style="list-style-type: none"> ● INTRINSIC-EXTRINSIC MOTIVATION ● GOAL SETTING ● 100% EFFORT
C. emotions	<ul style="list-style-type: none"> ● ACTIVATION AND RELAXATION
C. attention	<ul style="list-style-type: none"> ● CONCENTRATION & FOCUSING TECHNIQUES
C. thoughts	<ul style="list-style-type: none"> ● POSITIVE THINKING ● SELF-TALK -ATTRIBUTION
C. behaviour	<ul style="list-style-type: none"> ● BEHAVIOURAL PATTERNS - ROUTINES ● GESTURES
C. m. images	<ul style="list-style-type: none"> ● VISUALISATION - IMAGERY

5. MENTAL TRAINING MADE PRACTICAL ON COURT

When training mentally on court, the coach should use the classic drills but change the goals by introducing mental goals, i.e.: concentration, effort, emotional control, etc. Remember that the best way is through match play situations.

Which other mental aspects can be practised on court?

1. Match preparation: Pre-match routines and procedures, "psychological" warm up.
2. Training: Between points period, during points period, between games and during changeovers.
3. Evaluation and reaction after the match: analysis of the performance and the score.
4. Reactions in specific situations: external (rain, calls, etc.) and internal (Injury, etc.).

6. MENTAL TRAINING PLANNING

Planning mental training depends on the mental ability of the player, the player's general characteristics and the period of the tennis season concerned. Average mental training should include: 15 - 20 minutes per session, 2 to 3 times per week. It is also important to plan mental training drills within each technical or tactical session.

The following chart summarises what to do in each phase of the year:

STAGE	MENTAL SKILL
PREPARATION	<ul style="list-style-type: none"> ● Motivation ● 100% effort ● Fun & enjoyment
PRE-COMPETITION	<ul style="list-style-type: none"> ● Emotional control ● Concentration ● Positive thinking
COMPETITION	<ul style="list-style-type: none"> ● Visualisation ● Behavioural control ● Specific match play situations
TRANSITION	<ul style="list-style-type: none"> ● Fun & enjoyment

7. MENTAL SKILLS IN DIFFERENT STAGES OF TENNIS

The following table summarises the main characteristics of mental skills in different stages of tennis:

BEGINNERS	<ul style="list-style-type: none"> ● MOTIVATION: interesting practices ● EFFORT: strive for high quality ● ENJOYMENT: fun games and drills ● GOOD BEHAVIOUR/ SPORTSMANSHIP: rules of tennis code of conduct
------------------	---

INTERMEDIATE	<ul style="list-style-type: none"> ● CONCENTRATION: specific tennis drills, high mental intensity ● EMOTIONAL CONTROL: activation (mental & physical) & relaxation techniques (Jacobson or Schultz) optimal zone of performance ● THOUGHT CONTROL: positive self talk
---------------------	---

ADVANCED	<ul style="list-style-type: none"> ● BEHAVIOURAL CONTROL: e.g. Loehr's 4 stages between points ● CONTROL OF MENTAL IMAGES: visualisation during tennis drills ● ON COURT "SITUATION" TRAINING: what to do mentally before, during and after the match (routines)
-----------------	--

8. SO WHAT?....CONCLUSIONS

When training mental skills, a coach should remember that:

Psychological skills can be learned and practised on court
Just apply mental goals to the same drills Emphasise routines
Use the **C.O.M.E.T** principle:

- **C**ONCENTRATION
- **M**OTIVATION
- **E**MOTIONAL CONTROL
- **T**HOUGHTS

A SYSTEMATIC APPROACH TO THE DEVELOPMENT OF CLUB AND PERFORMANCE PLAYERS

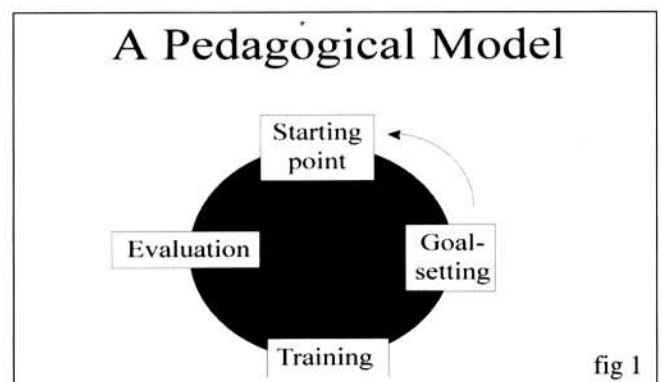
by Frank van Fraayenhoven (Holland)

In general, I would like to make the statement that most coaches work with the same approach for all players. The same development and the same drills for everyone.

I'd like to propose another more player-centered approach. I will try to explain this in short, using diagrams to show how it works.

Worldwide, everyone working in the field of pedagogy knows some kind of diagram that shows the relation between the pupil, the goal setting, the learning process and the evaluation. There are many complex models, but I like to use this simple one (fig 1):

In this article I will only cover the first two principles of this circle: the **starting point** and the **goal setting**.



The starting point is essential. Every person who is learning likes to learn something extra; that means learning more than he or she already knows or masters. Many teachers however neglect this fact and teach what they always teach.

When you start to examine the starting point of a player, you have to study the player closely and try to describe his or her game and gametype. It is essential to look at what the player can do and what the player cannot do. Far too often coaches think of all the things the player cannot do. This is probably caused by “striving for perfection”. However, you should try to look at the good things too. I like to categorise all aspects in three groups:

- 1) **Possibilities;** shots/elements of your game have a clear function in your gametype and do not make you lose.
- 2) **Limitations;** shots/elements of your game can be exploited by your opponent (in order to beat you) and make you feel insecure.
- 3) **Weapon;** this shot is ‘lethal’, it enables you win many points; opponents are afraid of it.

Making a training programme for a player and trying to periodise this plan includes choosing when to work on strong points and when to work on weak points. Close to important matches most players prefer to work on strong points; this enforces self-confidence.

Goal setting should, above all, be specific. This means that you should try to specify the situation that your player will master after a certain time. Specific goals are easier to evaluate and are therefore very stimulating for players (and coaches). For example: “hit your serve in the corner of the service box with 70% consistency and with the second bounce in the fence” is a much more specific goal than “try to improve the placement of your serve”.

I like to use the acronym “**S.M.A.R.T.**” when listing goals:

- Smart
- Measurable
- Agreed
- Realistic
- Time Phased

Working with the player-centered approach means that we have to think from the gametype of the player. **The gametype of a player concerns his/her preference of how to play the game, based upon his/her character, physical abilities and technique.**

If you want to work in a way specifically linked to the gametype of your player, in order to make the player perform optimally, you can use the following diagram (fig 2):

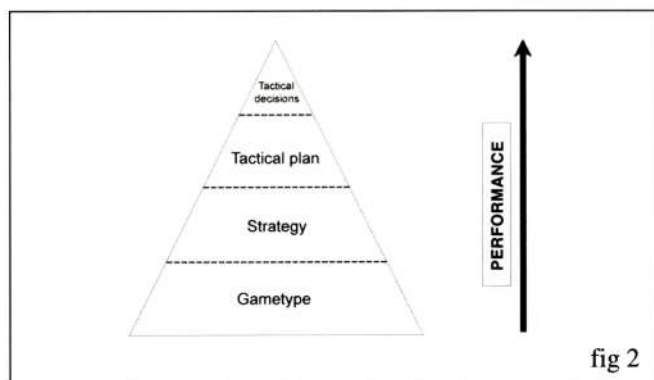


fig 2

Starting to think from the **gametype** of your player, you can then think of a sound **strategy** for your player on the specific court surface the match will be played on. Then you can think of a more detailed **tactical plan**, considering the opponent. This means your player will take many **tactical decisions** during play.

These decisions will most likely be in predictable situations. For example: an aggressive baseliner has to take most decisions during baseline play and those decisions concern mostly whether to go for a winner or not.

In training for a match you should work predominantly on those situations that the player is going to face most of the time. For a long term plan you should decide what to work on in order to make your player successful, if possible within his/her gametype, in the future. This does not mean that the player has to master every stroke or that every stroke he does master should be to the same level!

Talking about long term and short term, actually means thinking about **development and performance**. Overall development must be seen as a long term project. This includes teaching every facet of the game. Performance (results) in the short term implicitly means you have to work on things the player masters and can already use.

In figure 3 you can see that a very young player (look at the bottom of the diagram) should be concerned about general development only. Performance (read: winning) is not yet important. An older player (this can also be a top player at his prime!) should not be (much) concerned about general development, but should think from his gametype and the specific needs “around” that gametype. For example; a Spanish clay court specialist in the top ten will not try to volley like Rafter (who likes to volley), but will probably try to improve his volley in situations where he has to use it.

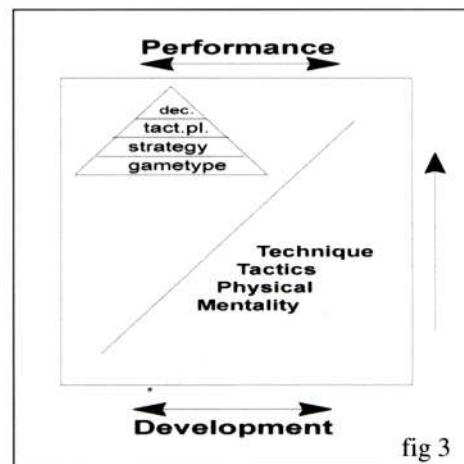


fig 3

About the middle of the diagram you can see that development and performance are of about equal importance. You could say that this is at the age of about 12-14 years. In many countries the results are so important (rankings!) at young ages, that people do not think of long term development. In most cases this proves to be wrong: there are many case of burned-out players and players who were successful at the age of 12, but never became good players later on.

A good technical basis should enable the player **to do things on court with the ball**. Technique is not a goal in itself but a means to receive a tennis ball and return it to the opponent’s side of the net.

Good tennis players master more functions with a ball than weak tennis players. These functions are:

- precision
- variation
- spin
- tempo (take ball early)
- consistency
- ball-speed
- playing under pressure
- camouflage
- court coverage
- anticipation

I call these functions **determining** factors. They determine the level of a player, together with the overall determining factors: mental, physical and tactical qualities

In every matchplay situation players will have certain qualities. Within each (of the five) matchplay-situations it is possible to give an indication of the level. For an imaginary player these "profiles" could look like this (fig 4):

In this diagram the imaginary player shows high levels on baseline play and passing shots. Approach and net play appear to be the weakest parts.

If this player is a typical baseliner, it does not have to be a problem that going-to-the-net is underdeveloped. Working on the return of serve and improving the serve will make him better.

Every player could be placed on an imaginary 'staircase' (fig 5). At the bottom of this staircase is the beginner's level and at the top the level of the 'perfect player'. Whenever a player strives to climb another step on the staircase, he or she has to improve his or her total level as result of the qualities of the most important match play situations for his/her gametype.

This diagram is the key in the planning of the progression of your players. This model makes it possible to make a profile of very different players. You can then compare those players and select the next progression, based upon their preferences to how to play the game.

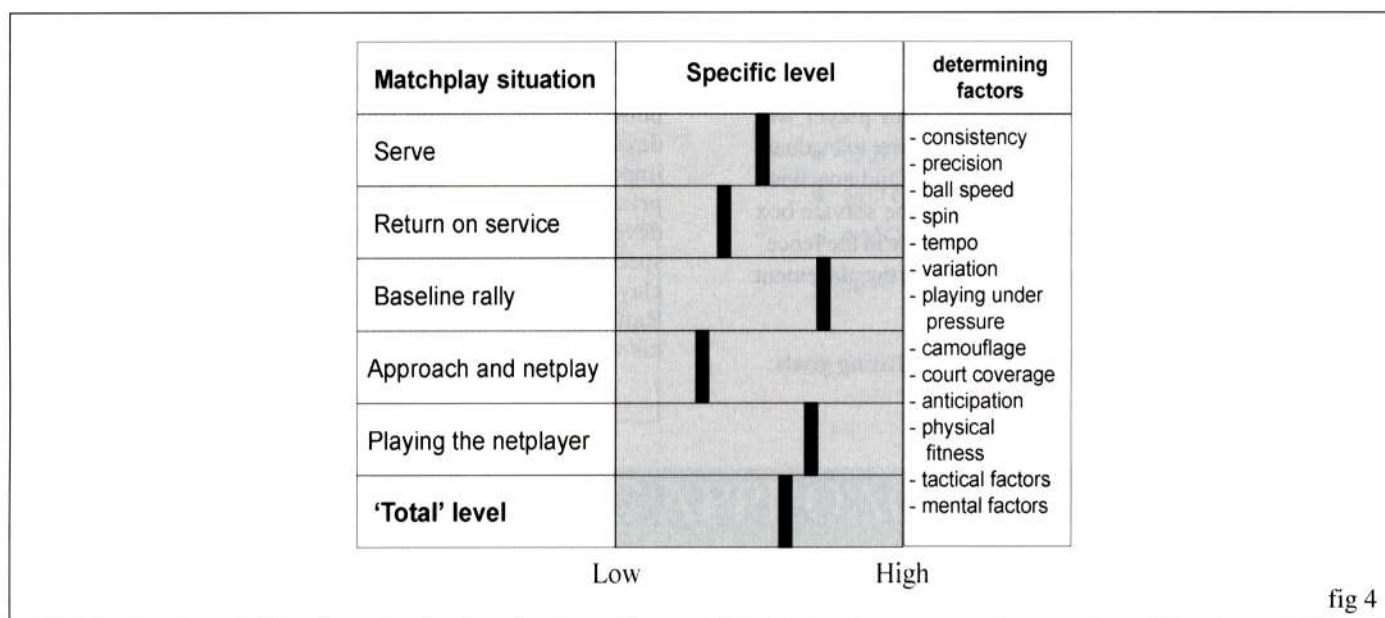


fig 4

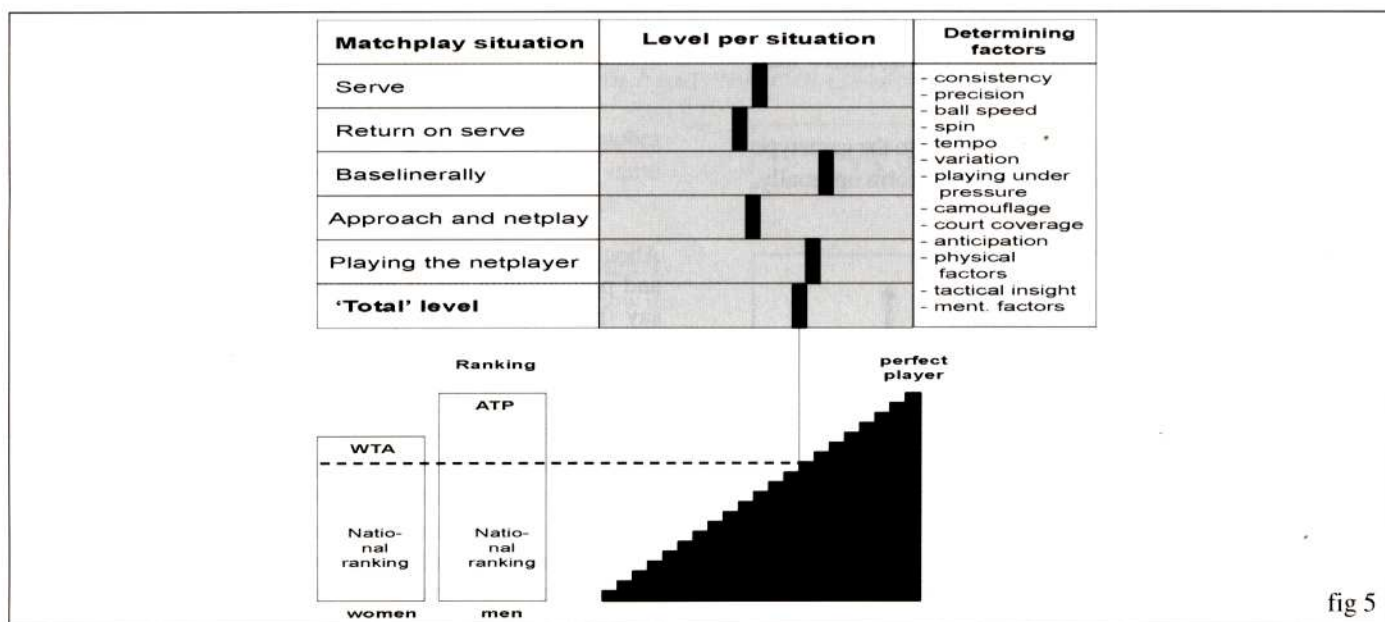


fig 5

IMPROVING THE GAME ON FAST COURTS THROUGH TACTICAL SITUATIONS

by Bernard Pestre (France)

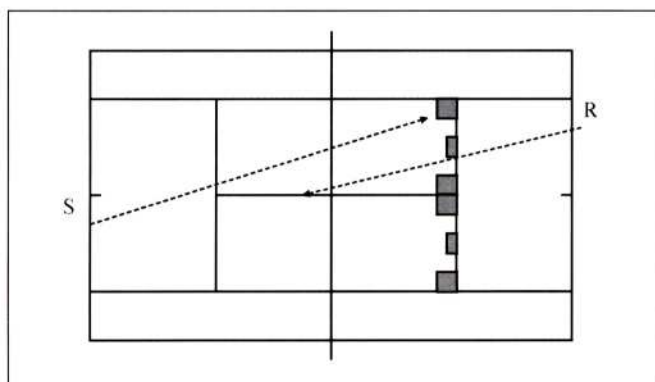
INTRODUCTION

Power has become one of the rules of tennis, on fast courts more than on clay courts. Players are continuously searching for power in their serves, returns and mid-court shots. Baseline rallies still exist, but players are always looking for the killing shot and points are often finished within three shots. For this reason rally lengths on fast surfaces are very short.

I. SERVICE

For many years now, the serve has not simply been seen as the start of the point, but also a real weapon often producing winners. The best servers serve thousands of aces and the majority of points are won by winning serves or in two shots. The secret to a good serve is strength (more than 200 km/h for the best servers), precision and consistency (often 70% of first serves in). Big servers win 8 out of 10 points if they get their first serve in.

Drill 1: Player S serves and player R returns. The receiver is told in advance the direction of the serve. This allows the receiver to concentrate on his return technique while at the same time the server is working on his power and precision. Importance is given to both players' technique. Returning lots of serves under matchplay conditions, helps the player learn to "read" the stroke.

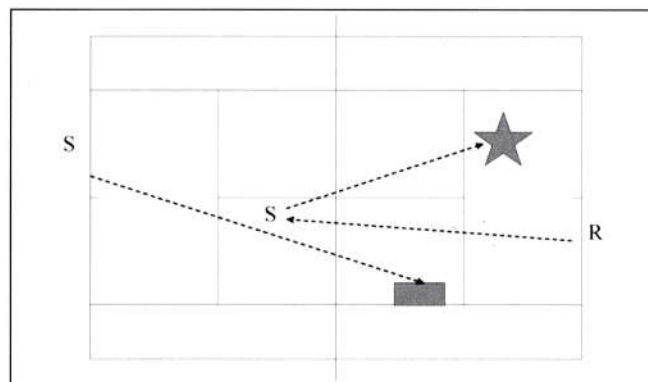


II. SERVE AND VOLLEY

Wide serves push the receiver off the court. The receiver is then off balance and can be left standing in the tramline as the server hits his volley. The whole court is left completely open enabling the server to finish off the point. Serve and volley is still a basic pattern on fast courts and a good quality serve makes it easier to play serve and volley.

Drill 2: Player S serves to the target, player R returns and S volleys to another target (star). They play the point out. This tactical situation should be practised and improved as much as possible until it becomes automatic and reliable, especially on big points. A target placed in the service box can determine the success of the drill. Its location and size depend on the level of the players.

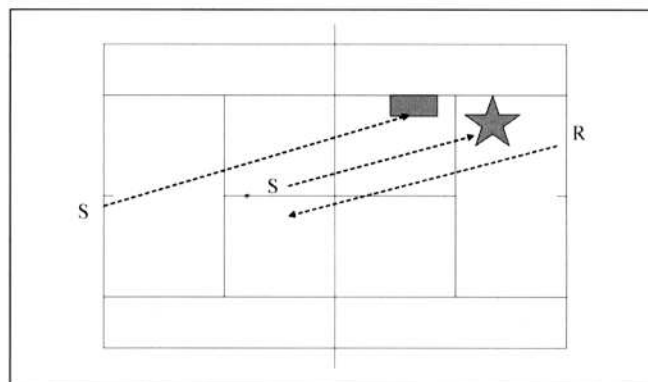
Hitting very short and wide serves gives the server a big advantage because he is able to attempt a winning volley even on big returns.



III. DEEP VOLLEY - SHORT VOLLEY

When the receiver returns to the server's feet, he forces the server to play a low first volley far from the net. This volley should be hit deep to the centre of the court allowing the server enough time to move in and take up a good position at the net, and finish the point with a short crosscourt volley.

Drill 3: Player S serves to the target and volleys, and player R returns. The server should play the first volley while moving forwards and keeping a very low centre of gravity. The second volley should be played closer to the net towards the other target (star). The point is played out. The server should try to win the point on the first volley when it is easy, i.e. when the serve has been especially efficient. Even from midcourt, a volley should always be aggressive.

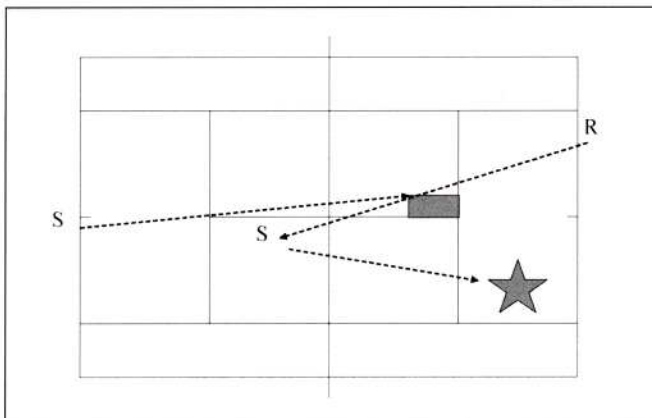


IV. WINNING THE POINT WITH THREE SHOTS

If the return of serve is good enough to prevent the server from finishing the point with the first volley, the server has to try to maintain the advantage by hitting a volley deep and straight ahead to push the receiver behind the baseline. In this situation, one option for the receiver is to hit a lob. But, if the server anticipates the lob, he can try to win the point with a smash.

Coaches do not often include services and smashes in matchplay practice sessions. They will be surprised to see that a smash, which is apparently acquired through a basket drill, is uncertain in front of an opponent. The lob drills are often forgotten and can only be improved by setting up a rallying situation involving an opponent.

Drill 4: Player S serves to the target, R returns and S volleys to the other target (star). When player S is at the net, player R should mix lobs with passing shots. Player S tries to finish the point with a volley or smash. The objective of a smash should always be to finish the point.

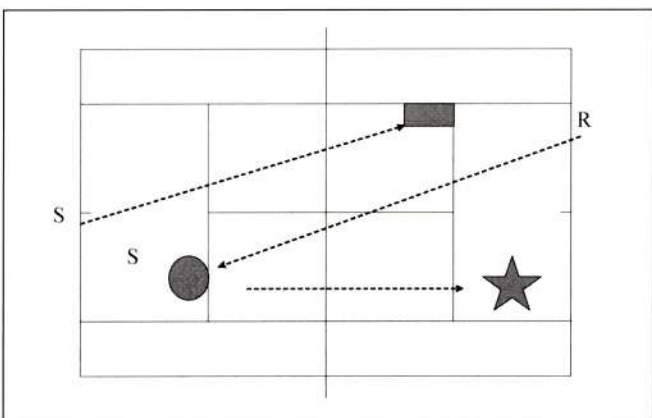


V. OPEN THE COURT AND ATTACK

When the server's intention is not to serve an ace but to throw his opponent off balance with a sliced crosscourt first serve, the receiver should play a defensive return. The server can then move up the court and hit the ball very early with power. By throwing his opponent off balance, the server is often left with the court open for an easy winning volley.

Drill 5: Player S serves to the target and stays back. Player R should play a non aggressive return to the target (circle), enabling player S to hit an attacking shot down the line to the target (star). They play the point out.

Quality of attack is the aim of the drill. The receiver does not have to hit a very weak passing shot on purpose, but he is forced to by the serve. Technical points include: approaching the attacking shot with the appropriate footwork and transferring the body weight while hitting the ball. A good attacking shot can be followed up by a short crosscourt volley or maybe no volley has to be hit. By taking the ball early, he is stealing time from the opponent.

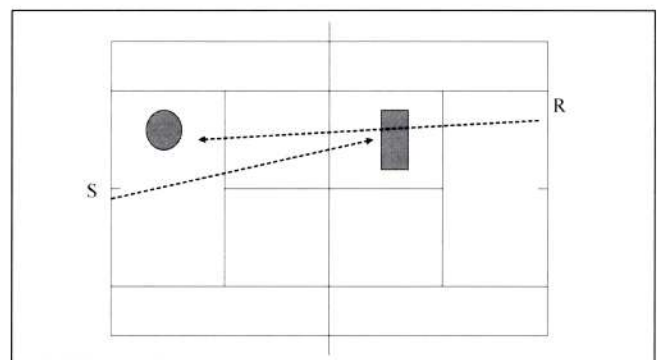


VI. RECEIVER ATTACKS

The receiver can take advantage of a short badly placed serve by moving in to hit a very aggressive return down the line. With the server under pressure, the receiver is in a perfect situation to play a winning volley either crosscourt or down the line.

Drill 6: Player S serves a second serve to the target, player R hits an aggressive return to the other target (circle) and comes to the net following the ball's trajectory. His groundstroke (forehand) should not be too close to the line, but still deep and powerful enough to enable him to get to the best position to finish the point at the net. The point is played out.

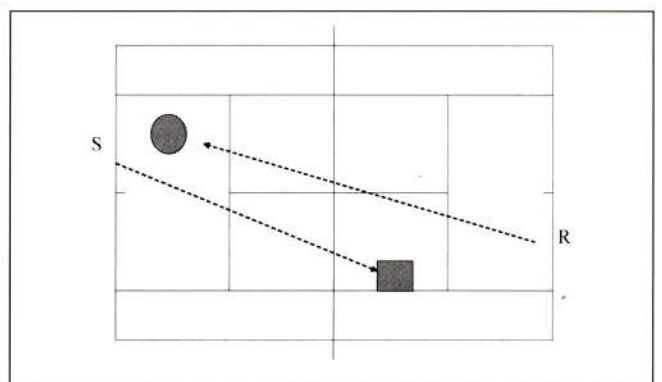
Technical points include: good quality footwork after the return has been hit, and steadiness of the volley. If the position at the net allows it, the volley should be short and crosscourt. When the serve is weak, the receiver can attack. Going to the net after the return of serve is probably the best way to put pressure on the server.



VII. APPROACHING WHEN THE BALL IS ON THE OPPONENT'S SIDE

When taking advantage of a second serve, the receiver can hit a deep return which forces the server to play a weak shot (eg. sliced backhand) moving backwards. The receiver can then hit a powerful groundstroke and move up the court. Another weak shot of the server (eg. sliced backhand) may give the receiver the opportunity to approach the net immediately and to finish the point by wrong footing the opponent.

Drill 7: Player S serves a second serve to the target and stays back. Player R hits an aggressive return to the other target (circle). They play out the point waiting to approach when the ball is on the opponent's side. The goal of the drill is to place the player in a situation in which he has to choose the right moment to move up the court for the conclusion of the point. The drill can be continued until the players are confident they can "sense" the right moment to move in. Approaching the net as the opponent is about to hit the ball can often be a good surprise tactic to upset the opponent.



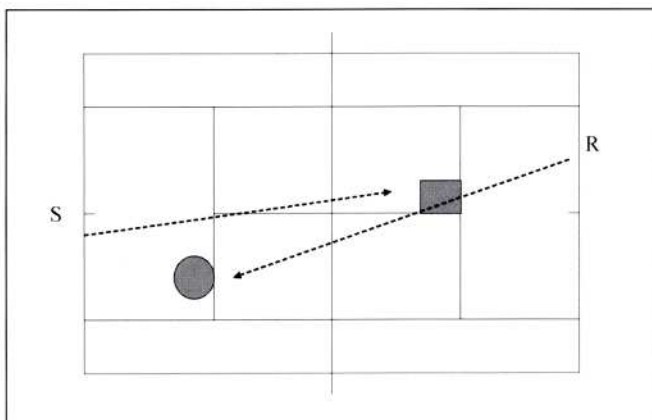
VIII. CROSSCOURT RETURN

On a second serve, the receiver can hit a powerful passing shot return with a very spectacular trajectory. At such speed, it is not possible to adopt the same stance as for groundstrokes, since the upper body needs solid support on the ground, and the receiver should adopt an open stance.

Pestre 6

Drill 8: Player S serves a second serve to the target and comes in to volley. Player R plays an aggressive crosscourt passing shot return to the other target (circle). They play out the point.

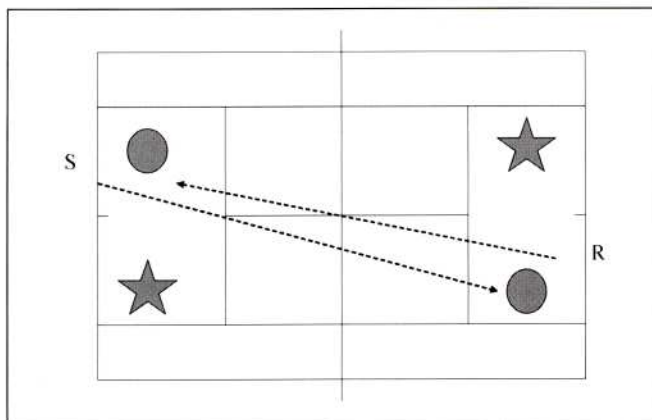
The importance assumed by the serve means the return is all the more important. If the receiver misses the opportunity to take advantage of a weak serve, he loses the chance to make a break. The good receiver makes his opponent doubt his 2nd serve.



IX. CROSSCOURT AND DOWN THE LINE SHOTS

A crosscourt backhand rally can result from a safe second serve and a safe return and sometimes players have to play non aggressive sliced backhands. The crosscourt backhand rally also exists on fast courts, but in these situations the first short shot should be punished. However, a powerful backhand down the line is a shot which will gain more and more importance in the future.

Drill 9: Player S serves and stays back, player R returns and they start a crosscourt rally from the baseline (circles). Both players should try a winning backhand (stars) whenever they want to. Daring to try the difficult shot, often makes the difference.



CONCLUSION

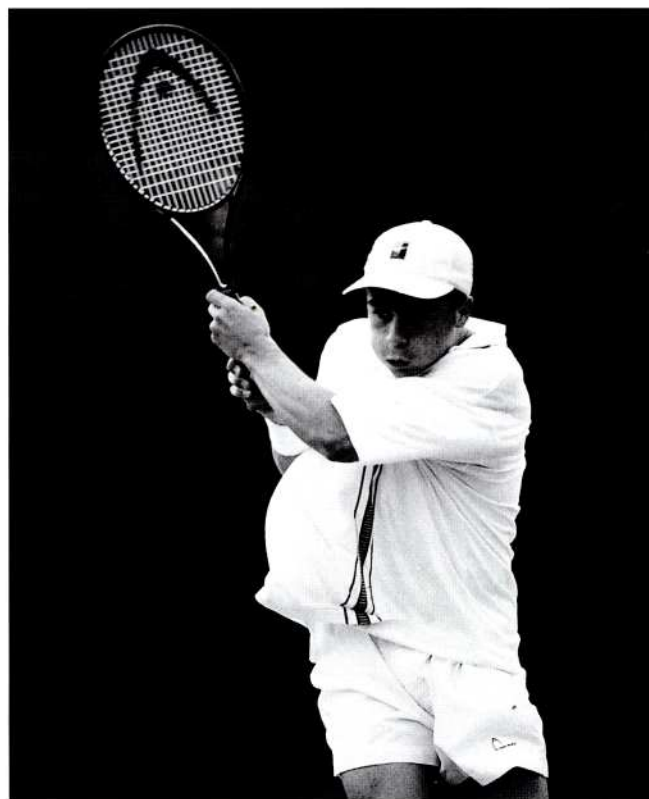
In order to achieve a successful matchplay training session, players have to be completely involved in the drills. Drills should be developed by playing points, thus making the training session more like a game situation.

Specific shots such as the return of serve, approach shot, lob and smash can only be improved through a game situation. Technique and tactics are combined completely in these drills. The notion of uncertainty is also very important in this type of practice. Coaches should introduce uncertainty to help develop the player's sense of anticipation and footwork technique. Players should learn when and how to move forward to the net, and when and where to stop in order to be able to reach a lob.

However, setting compulsory patterns can force the player to play the wrong way. Make sure that they always follow the basic rules of tactics, even if they are not part of the drill. For example, the player who sticks to hitting a backhand volley when a forehand volley would have been easier and the more obvious shot, is making an error, even if he wins the point.

Another important principle is the idea of surprise. When teaching players how to surprise their opponent, coaches develop the players' readiness, tactical intelligence and eye coordination. In this type of practice, the coach should make the players aware of the different choices open to them in a given situation, but let them take the decision.

These game sequences are not designed to make robots out of our players, but on the contrary to sharpen their tactical awareness. Our job as tennis coaches is to come up with other situations to help our players to adapt their own style of play to the various situations that occur in tennis.



RECOMMENDED BOOKS, COMPUTER SOFTWARE....

How to "Love-30" kids on a tennis court

*Australian Sports Commission and
Tennis Australia*

Level: Beginner. 153 pages. The book aims to teach tennis through fun, tennis related activities, to be a flexible user-friendly resource and develop student's basic level of motor skill competencies and tennis umpiring, scoring, etiquette and positive attitudes towards tennis, to encourage future involvement.

The contents of the book are as follows: Section 1: introduction (aims of the resource, teaching strategies, team teaching, vertically grouped classes, self-directed activities,

demonstrating, revising, extending, safety, etc.). Section 2: Ideas for on court sessions (warm up activities and games, skill development activities: forehand and backhands, serve and returns, volleys, lob and smash, minor games. Section 3: More on court and off court tennis ideas (skill cards, fantasy tennis, competition formats, rainy day tennis. Section 4: Further tennis information (basic strokes, basic rules, basic tactics). Origins of tennis, glossary of tennis terms, Tennis Australia Programs, 1997 promotional resources, references.

More information: Michelle Philips-Kiely, Tennis Australia. Private Bag 6060. Richmond South, Victoria 3121, Australia. Tel: 61 3 9286 11 77, Fax: 61 3 9650 27 43. Only available in English.

Teaching by playing, more than 100 games for tennis schools

*Daria Kopsic and Fernando Segal
Asociación Argentina de Tenis*

Level: Beginner. 124 pages. Focuses on the methodology of teaching tennis to beginners by playing games.

The contents of the book include the following: Kids' motives for practising sport. Social characteristics of kids. Stages of skill acquisition. The tennis lesson: organization and safety. Basic games: rules, motor abilities developed through games, components, goals, teaching, having fun and being successful, list of games. Advanced games. Games for rainy days: instructive, educational, recreational, interactive. Activities circuit. Cool down exercises.

More information: Asociación Argentina de Tenis. Av. San Juan 1307. 1148 Buenos Aires. Tel 54 1 304 22 56. Fax 54 1 305 02 96. Only available in Spanish.

Tennis CD ROM:

Virtual Tennis: A realistic way of playing tennis. Latest 3D techniques. Singles and doubles matches. Digital Dreams Multimedia. Tel. (91) 741 26 62, Fax (91) 320 60 72. Price: \$15. Only available in Spanish.

French Open: Game simulator. You can play any shot. Different camera angles. Replay of best shots. You can choose between clay, grass and hard courts. Available in English and French.

Sampras Extreme Tennis: Realistic Tennis simulator. Features 8 international tournaments and 22 opponents with artificial intelligence. Actual dimensions of the ball adjusted to millimetres. Price: \$60. Available in English and Spanish.

Let's Play Tennis with Tracy Austin: Uses live-action video, great color graphics and personalised coaching advice. With Cliff Drysdale and Fred Stolle. It uses easy-to-follow interactive instruction and contents include: playing the baseline, grip styles, approach shots, overheads, volleys, lobs, serving and net play. It also includes a review feature that allows you to check the level of learning of the player. Price: \$49.95. Human Kinetics Publ. & ESPN Tennis. Tel. 1 800 747 44 57 or 113 27 81 708. Only available in English.



International Tennis Federation

ITF Ltd, Bank Lane, Roehampton
London, SW15 5XZ

Tel: 44 181 878 6464 Fax: 44 181 878 7799/382 4742
E-mail: itf@itftennis.com

