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ITF coaching & sport science review

The official coaching and sport science publication of the International Tennis Federation

Editorial

Welcome to Issue 32 of ITF Coaching & Sport Science Review. This first issue for 2004 includes a collection of invited articles on some concepts in tennis coaching and sport science that are often referred to by coaches but not always completely understood. We would like to extend our thanks to the coaches and experts who have contributed articles. The articles cover selected technical, tactical, mental and physical elements of the game and how these apply to juniors and to players at all other levels of the game.

An important element of the ITF's Coach Education Programme are the Regional Workshops. These events are held regionally every two years and typically deal with both high level player development and increasing participation in tennis. Coaches who are interested should approach their National Associations who will shortly be receiving detailed information regarding the workshops. The tentative dates and venues for 2004's Regional Workshops are as follows:

- The ITF Central American & Caribbean Workshop will be held in Santo Domingo, from 13-19 September.
- Hyderabad (India) will host the ITF/ATF Regional Workshop during the third week of October.
- The Tennis Europe Coaches Symposium will be held in Valetta (Malta) from October 30 until November 4.
- The week from 15-21 of November will see Asunción (Paraguay) host the ITF South American Workshop.
- The ITF African Regional Coaches Workshop will be held in Pretoria (South Africa) during the week of 22-27 November.

The improvement in coach education worldwide would not be possible without the co-operation of those people responsible for coach education in many of the most developed tennis nations. We would like to take this opportunity to acknowledge this group of coach educators who continue to share, and in many cases allow the ITF to use their material. Many of these educators have been members of the ITF Coaches' Commission and have worked closely with ITF executives to produce many of its coaching publications over the years. Following the ITF Worldwide Coaches Workshop a new ITF Coaches' Commission began a two year term.

The members are: Paul Chingoka (Zimbabwe-Chairman), Alberto Riba (Spain), Carlos Kirmayr (Brazil), Elliot Teltscher (USA), Dr. Paul Roetert (USA), Amine Ghissassi (Morocco), Hans Peter Born (Germany), Bernard Pestre (France), Ivo van Aken (Belgium), Anne Pankhurst (Great Britain), Dr. Ann Quinn (Australia), Frank van Fraayenhoven (Netherlands), Shuzo Matsuoka (Japan) and Bharat Oza (India).

In this issue, you will also see that we are enclosing information for National Associations interested in hosting the 14th ITF Worldwide Coaches Workshop. This event is the showpiece of the ITF's Coach Education Programme and is to be held during October/November 2005. Any National Association interested in hosting this unique educational forum is asked to submit their proposed bid in writing to the ITF Development Department before 15 June, 2004.

The International ratings project continues to grow. Countries such as India, Austria and Finland have already followed Tennis Australia in adopting the ITN as their national rating system and many more nations are currently looking to launch the ITN very soon. The on court assessments which have been developed primarily to help initially rate the recreational players (ITN10-7) have been well received. The on court assessments were launched on a one year trial at the ITF AGM in Rio and we want to encourage you to try them with your players and give us any appropriate feedback.

Miguel Crespo and Brenden Sharp presenting the ITN at the Australian Tennis Conference in January.

The ITN website www.internationaltennisnumber.com has details/guidelines on how to use the ITN on court assessments as well as a PDF of the ITN manual which explains how to introduce and implement the ITN as a national rating system in a country. We hope you can help us to rate the Tennis World…..we begin today!!

As always, we welcome your comments on any of the information published in the Review and remind all of you that the Review is available in the "Coaches News" section of the ITF website, www.itftennis.com.

Dave Miley
Executive Director, Tennis Development

Miguel Crespo
Research Officer, Development

Machar Reid
Assistant Research Officer

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Analysing Serve and Groundstroke Technique On Court

By Bruce Elliott (Professor, University of Western Australia) and Machar Reid (ITF Assistant Research Officer)

The positioning of the coach or video camera should be specific to the mechanical feature of the stroke to be analysed.

Introduction

The ability to analyse, and then improve or consolidate stroke technique is fundamental for the tennis coach. Many good coaches are able to use their naked eye to go about doing just that. Here, the observation of a player's technical skills during matchplay, where any technique flaw or inadequacy will be exposed in its fullest, is key to many of the best coaches' analysis procedures. In recent years however, slow motion video has also been increasingly used to assist the "eyes" in analysing stroke production.

Irrespective of the physical means through which coaches analyse stroke technique, evaluation of the key mechanical features of each stroke, is required. This list of variables or any other model of performance may vary marginally from coach to coach. Information from research should form the base in the development of a list or model and should guide the position of the coach and/or video camera on court. This positioning should be specific to the mechanical feature of the stroke to be analysed. The intention of this article is therefore to:

- highlight what coaches should look for when evaluating some of the key mechanical characteristics of the serve and groundstrokes and;
- outline positions on court from which these observations can be best made (see Table 1).

Analysing stroke technique

Table 1: Examples of key mechanical characteristics of the serve and groundstrokes and from where they should be evaluated on court. (All indications are for right-handed players.)

Stroke	Mechanical characteristic	Coaching tips - what to observe	Where from
Serve	Type of backswing	■ Abbreviated backswings can load the shoulder more than fuller backswings	■ To the side of the player (B)
	Thrust of lead hip	■ Lead hip moved forward into the court during the backswing ■ Should not see front foot rotated beyond a line parallel to the baseline	■ To the side of the player (B)
	Separation angle	■ Shoulders should rotate ≈ 20° past the hips during the backswing	■ Behind player (D)
	Alignment of shoulders-hitting elbow	■ Top of backswing should see shoulders and elbow of hitting arm aligned in a straight but tilted fashion	■ To the side of (B) and behind the player (D)
	Leg drive	■ Front knee flexion to approximate 90°-110° ■ Player should drive off (feet should leave) the ground ■ Racquet should approximate waist-band at maximal external rotation (MER). Player's arm should almost be parallel to the ground at MER. "Did player's leg drive help it get there?"	■ Behind player (B&D) ■ To the side of player (B) ■ Behind player (D)
	Internal rotation of the upper arm	■ Turning out of the elbow ■ Fast movement of the racquet tip, from pointing toward the back fence (just prior to impact) to parallel with the baseline (at impact)	■ Between baseline and the net post (some elevation helps) (A)
	Upper arm and trunk angle	■ At impact, the angle between the side of the trunk and the upper arm should be 100°±10°	■ Behind player (D)/slightly offset toward server's non-dominant side (E)
	Shoulder-over-shoulder rotation	■ More vertical than horizontal alignment of the shoulders at impact	■ To the side of the player (B)

Stroke	Mechanical characteristic	Coaching tips - what to observe	Where from
Forehand	Balance	■ Stance comfortable, specific to tactical intention ■ Head aligned with mid-point of the shoulders ■ Non-racquet arm should assist backward trunk rotation and act to balance the movement of the racquet arm	■ To the side, in front or behind player (B, C, I)
	Separation angle	■ Shoulders twist 20° past hips at the end of the backswing	■ To the side of the player (B)
	Length of forward swing	■ At the end of the backswing, the racquet may be rotated as far as 45° past the baseline	■ Behind player (C)
	Swing reversal	■ The pause between backswing and forward swing should be minimal	■ To the side of the player (B) or in front of the player (I)
	Right leg drive	■ At the start of the forward swing, the right leg should drive forward (and upward) vigorously	■ To the side of the player (B)
	Racquet trail or lag	■ As segments rotate sequentially, the racquet trails the trunk, placing anterior shoulder musculature on stretch	■ To the side of the player (B)
	Internal rotation of the upper arm	■ Inside of the elbow turns from the player's right (near impact) around to the player's left (after impact) ■ When the racquet follows-through across the body, the elbow will finish between shoulder and waist height and point at the opponent	■ Between baseline and the net post (A)
	Racquet finish	■ Does the player stop his swing abruptly (sideways and/or forward) or provide sufficient swing length and direction to slow the racquet and arm optimally?	■ To the side (B) or in front of the player (I)
Topspin one-handed backhand	Role of left leg and weight transfer	■ Weight shifts from the back foot to the front foot to impact	■ To the side (G)
	Separation angle	■ Shoulders twist 30° past hips at the end of the backswing and the right shoulder will point toward the BH net post	■ To the side of the player (G) or in front of the player (I)
	Length of forward swing	■ At the end of the backswing, the racquet should be rotated to a position where it is approximately parallel to the baseline	■ Behind player (F)
	Sequencing	■ Segments (leg-hip-shoulder-upper arm) to rotate sequentially.	■ To the side of the player (G)
	Contact point	■ ≈0.3m in front of lead foot ■ Racquet should be aligned perpendicular (±5°) to the ground	■ To the side of the player (G)
Topspin two-handed backhand	Stance	■ Well-balanced and specific to tactical intention ■ Does the type of stance used affect stroke performance (i.e. the mechanical characteristics below)?	■ To the side, in front or behind player (F, G, I)
	Separation angle	■ Shoulders twist 20° past the hips to pre-stretch the trunk musculature	■ To the side of the player (G) or in front of the player (I)
	Length of forward swing	■ At the end of the backswing, the racquet should be rotated 20° past a line perpendicular to the baseline	■ Behind player (F)
	Sequencing	■ Does the player rotate his two arms as one unit or are they used independently? Does the player manipulate this segment interaction to suit the type of shot played?	■ To the side of the player (G)
	Contact point	■ ≈0.1m in front of lead foot ■ Racquet should be aligned perpendicular ±5° to the ground	■ To the side of the player (G)

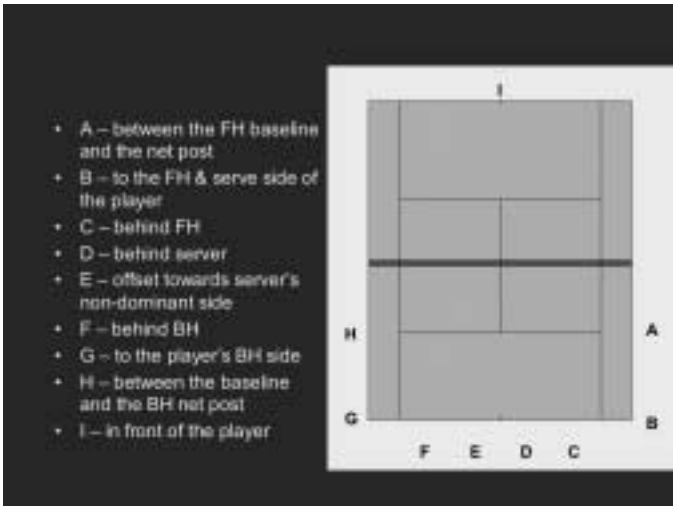
Note: Coaches should understand that to best analyse some mechanical characteristics (i.e. internal rotation of the upper arm), they would likely require high-speed video.

Summary

Each coach will have a process through which he qualitatively analyses stroke production. Regardless of whether or not video is used to supplement that analysis, the position of the "analytic eye" should be specific to the mechanical characteristic being attended. Table 1 should help coaches begin to position themselves and/or their video cameras accordingly.

Readers interested in more information

on the design and use of mechanical lists and models for the purposes of stroke analysis and improvement are referred onto *ITF Biomechanics of Advanced Tennis.*



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The Jobs of a Fed Cup or Davis Cup Captain

By Ivo van Aken (Director of the Flemish Tennis Association and Belgium Fed Cup Captain)

Introduction

There are few "how to's… " as a Fed Cup or Davis Cup captain. There are however, several guidelines that you are well advised to follow if you want to get the maximum out of your team and relate well to your players and their coaches. For example, to *listen and try to understand all team members, guiding and coaching them accordingly* is one of the most important qualities of a Fed or Davis Cup captain.

This doesn't mean that captains simply do what team members ask; but good captains do understand that their methods of communication and coaching styles need to adapt to different players and situations. The best captains are then those that *coach all team members with an individual coaching style.*

This approach sees the captain asking *all players and their coaches what they'd like to practice the following day.* It is then the captain's responsibility to plan training so that the team will be ready on the day of competition and players achieve what they want from the day's training.

This democratic approach to coaching is also revealed when a captain searches for appropriate times to communicate with the group, to hold individual or team talks, …

The standard of the players

The playing standard of the team members impacts on the captain's role: not because top players are more demanding or lower ranked players less; but because the *very top players* travel with their own private team. This team comprises of any number or one of *private coach, physiotherapist, physical trainer, and psychologist,* depending on the player's individual needs. Whether these "teams" should join the Fed or Davis Cup squads is a contentious issue. In my opinion, the presence of these "teams" can be beneficial prior to and throughout the tie as it can help ensure that each player's routine is kept the same and that they are comfortable.

The world's best players receive more media attention than their lower ranked counterparts. This is another factor that has to be dealt with and channelled correctly. Often, limiting how much the better players are exposed to the press and involving the other players in press conferences can work effectively.

Training content

Preparatory training for Fed and Davis Cup ties should complement each individual player's training programme. *A balance must therefore be reached between the team's objectives and goals of the player's individualised training plan.* If this balance is attained, all players, private coaches and the captain will be satisfied and the tie can approximate an optimal training week. This is, in my opinion, the key to getting the very top players committed to playing Fed or Davis Cup.

If members of players' teams attend the tie, the captain should consult them with respect to planning the training sessions and also collaborate with the players' private tennis coaches during on court work.

Task oriented coaching

Task oriented coaching is a fundamental ingredient of coaching success and in a team environment, *all players should be given concrete tasks both on and off court.* This also serves to facilitate any selection decisions a captain may have to make.

Concrete tactical plan

This goes hand in hand with a "task oriented coaching approach", however, the number of players that go on the court without a concrete tactical plan can be bewildering. *Good captains are thorough in their analyses of the game plans of their players and prospective opponents.* Specific tactical plans should then be developed for each match.

General characteristics of good captains

- A good captain is the first to credit and congratulate his or her players for their efforts. After all, it was the players, and not the coach, that did all the work on court!
- *Calm, controlled and consistent behaviour* is essential for good communication and coaching.

- Displaying appropriate *body language* that reinforces your message and is adapted to each player is imperative.

Considerations on court and off court

- *Quality training* is essential in all on court work. An eye for detail, coaching that is directed toward the specific needs of the player and the tie, … are highly valued by players.

- Players should *enjoy and be able to relax* during the off court activities organised by the captain.

- *The composition of the team should support a positive on/off court atmosphere.* So the choice of physiotherapist, sparring partner, assistant coach, … is not only based on professional competency; but also ability to complement or add to team spirit.

Home or away ties

Home and away ties present different challenges for the captain. Home ties see players inundated with requests from the press, organisers and sponsors. This probably represents the biggest management challenge for the home captain. Conversely, during away ties training quality may be jeopardised due to a comparable lack of access to facilities. Away captains also have to help players ready themselves to deal with partisan crowds.

Captain's pre- and post-tie responsibilities

A commonly asked question here is: how much time should captains spend travelling to tournaments played by team members? While this may vary from captain to captain and nation to nation, the emails I send to congratulate (outstanding performances) or to lend encouragement (following poor results) to team members, continue to be preferred by all.

Conclusion

Clearly there is no one way to captain a Davis or Fed Cup team. The approach used by a captain may be different from tie to tie (even with the same team members) and will likely differ along with each nation's players.

Fed and Davis Cup captains need to be able to adapt their coaching style to each individual player.

If your team contains some of the world's best players, their involvement in the Fed or Davis Cups can provide a real boost to the domestic game and so should be appreciated. Creating a positive and enjoyable team atmosphere can help to encourage these players' commitment to the cause. Other team members are likely to benefit from constructive feedback from the captain and any media attention that they would not normally or otherwise receive may help them to attract sponsors.

Skills Learning in Tennis

By Ron Woods (Ph.D., USA) and Paul Roetert (Ph.D., Managing Director USA Tennis High Performance Program, USA)

In the United States, negative coaches sometimes use the following expression of ridicule: "You throw like a girl!" It is meant to be a degrading comment, pointing out that someone throws a ball overhand incorrectly. The question arises, is throwing a ball overhanded easier for males than females? Or is the difference in competency the result of more opportunity and practice for boys as they grow up? Is throwing a ball efficiently genetically based or a learned skill?

At an ITF Worldwide Coaches' Conference several years ago, we asked two **male** tennis coaches from Ethiopia to come to the stage and throw an American football back and forth. Although they were fine athletes and skilled tennis players, they had no luck in throwing a nice spiral pass. When we asked an American **female** coach to come forward, she threw the ball in a perfect spiral at the intended target. She admitted that she had quite a bit of experience in her younger years throwing a football with her brothers. Clearly, this example shows that throwing a football is a learned skill and not based on gender.

There is no doubt that some athletes have more genetic talent than others, however everyone can improve the sports skills they have and learn new ones too. Let's take a look at some of the key components of skill learning.

Set Realistic Plans

Skill development must be mapped out from the first introduction of the skill, to reinforcing and overlearning it, to using it in competition. As a coach, you need to plan when to introduce certain skills within the context of playing the game. Working backward from the date of the next expected competition, figure out how long it will likely take for players to learn a new skill or to bring it to a level of mastery so that it will be usable in competition. When players are first learning to play tennis, it makes good sense to limit the number of skills introduced so they can achieve some level of competency in a few skills that allow them to play games, sets and matches. Start out with serves, groundstrokes and volleys as the first step.

At an advanced level of play, you might want to introduce the concept of the "serve and volley" to young players. Once you've created the game situation and asked them to perform a serve and volley in doubles play, stop play and discuss with your players the problems they encounter. Once those problems are identified, you can structure drills and games to improve their serve placement, forward movement, split step for balance, timing and volley technique. Estimate the number of trials, practice sessions and match play they will need to become confident in the serve and volley so they will choose to play that way in a meaningful match.

Repetition during practice is needed to faciliate the mastery of any new or modified skill.

Review Previously Learned Skills Each Practice

Far too often, coaches and players skip this critical step in practice. As soon as the warm-up and stretching are done, the next task should be to review skills learned previously to set habits with minimum interference from new skills. The time spent need not be long, but should contain enough trials for players to groove the shot and feel confident in it. This practice time is the critical time for overlearning skills to insure that they will hold up under match pressure.

Introduce New Skills When Players are Fresh

After the review of previously learned skills, the next segment of practice should be learning new skills before fatigue sets in. Players who are tired either physically or mentally will find it frustrating to try to learn new skills. Even when they are fresh, the repeated trials to experiment and achieve some mastery can take a significant amount of time. When players are tired, errors in technique are bound to creep in even with high levels of motivation.

For example, when learning how to apply more spin to the second serve, it may take 40 trials to achieve some acceptable level of success. Once a player reaches that level, the next step is to **overlearn** the skill to set the habit for that day. Following the general rules of motor learning, a player needs to hit about 50% more trials than the number it took to reach the initial level of success. That translates into 20 more serves if it initially took the player 40 serves to learn to spin the ball adequately. Altogether, this example would require that a player hit 60 serves, a number that can be tiring for young players.

Insist on Practice at Match Play Intensity

Many players spend too much time on the practice court that leads to fatigue, boredom and lack of attention to detail. Take a cue from top professional players who have learned to practice for shorter amounts of time at high levels of intensity. Andre Agassi is a prime example of a player who maximises his time on the court. Andre moves at match speed and focuses totally on the task at hand followed by a brief rest. These short intensive work periods, which typically last 10 to 15 minutes, simulate the pattern he needs to follow in match play. The alternative pattern of stretching out drills into longer periods can often lead to sloppy technique and reinforcement of bad habits caused by fatigue or inattention.

Budget Time to Work on Both Strengths and Weaknesses

A common mistake made by players who are approaching an important match is to work extra hard on their weaknesses in efforts to improve them. The result is often frustration over lack of progress and an erosion of self-confidence. Practicing the week of a match should focus instead on players' strengths to build confidence and fine tune the shot patterns they plan to use in match play. Spend little time on weaknesses and plan to work on them during times of the season when match play is not scheduled.

Add Variety to Every Practice

Practice sessions will be more fun for both players and coaches if they constantly change within a consistent structure. While the parts of the practice and the sequence should essentially be consistent, the content of each section should vary to keep interest and motivation high. Ask players for suggestions on what and how they would like to work and then design activity that satisfies their needs. You might introduce a typical "game situation" and ask them to play certain shot patterns. Once you've agreed together how to improve their performance, structure a workout to isolate a certain skill or combination of skills that would benefit from extended work. Your players will immediately see the relevance to their match play and be eager to master the skills. Give them a chance then to practice these newly improved skills in a practice match and reward them for improved performance through points or other rewards.

Practice with Players of All Levels

Finally, as a coach, you want your players to be able to practice with other players of various skill levels. This will help them adapt to different game styles. They can work on new patterns of play or weaknesses when playing someone who is not as good as they are. When playing someone of a similar level, your players can focus on playing percentage tennis and learning to relax under pressure. And of course, playing better players will help them play more consistently, utilise their strongest shots and try to reduce errors.

In Conclusion

Adding these seven components of skill learning will help your players get the most out of their practice sessions and hopefully enjoy seeing rapid improvement in their games.

Complex Training for Tennis

By Machar Reid (ITF Assistant Development Research Officer) and Miguel Crespo (ITF Development Research Officer)

Introduction

Upon reading the title, many different things might spring to a reader's mind … one might interpret complex training to require players to hit blindfolded while another might associate it with players drilling and simultaneously rehearsing some Shakespeare! Well, fortunately (or unfortunately, depending on your like of 17th century literature!), complex training is nothing quite that abstract.

Contextually in tennis training, it relates to the sequencing of a heavier resistive exercise with a "matched" (mechanically similar yet less-resistive) plyometric exercise (Ebben and Watts, 1998). The "complexing" of strength and power/plyometric training in this way has

Goals	Set 1** - "Strength"	Set 2** - "Power"
Improve rate of force development in specific muscle groups of the legs and lower trunk to increase racquet and movement velocity	Squats	Squat jumps or vertical jumps (own bodyweight)
	Squats	Jump smashes
	Standing calf raises	Straight line bounding or pogo jumps for height on the spot, concentrating on minimising foot-ground contact time (FGCT)
	Forward lunges	Drop lunges or split squat jumps. Minimise FGCT
	Romanian dead lift	Standing long jumps for distance
Develop power in specific musculature of the arms and trunk to increase racquet velocity	1 arm rotational row	Sidearm FH or BH medicine ball throws
	3 point weighted trunk rotations (on physio ball)	Square stance FH's or BH's hit with maximum speed
	Pull-overs	Overarm medicine ball throws (simulating service motion) for maximum distance
	Open stance sidearm medicine ball throws ##	Open stance FH's or (2H) BH's hit with maximum speed
	Overarm single arm weighted ball throws (i.e. 1kg ball) ##	Tennis serves hit with maximum speed

*** If readers are unfamiliar with any of the exercises listed, please refer to texts like ITF Strength and Conditioning for Tennis or consult your local strength and conditioning specialist.*

been suggested to provide for greater improvements in power than either of these two training mediums on their own (Young et al., 1998). Theoretically the resistance work stimulates the central nervous system such that a very high number of Type IIb fibres are activated. This activation is then applied to the subsequent plyometric exercise, leading to an enhanced training effect.

Complexing strength/power training

Is complex training new to tennis? The short and correct answer is no! It may not have always been called complex training but in principle it's existed for decades. Accounts of past players swinging racquets still in their covers or with weights attached, as part of their training, are not uncommon (Hohm, 1987). By combining these simple training techniques with normal strokeplay, the players were in effect performing a strength set (swings with resistance) followed by a power set (normal swings) or in other words, complex training! (Schonborn, 1999)

In the following table, we will detail 10 complexes that can be performed with players. Some will require gym equipment and space, while others can be undertaken on court. Coaches and players should always seek specialist help to provide for appropriate exercise prescription and technique. As general rules however, the resistance of strength sets (Set 1) should be close to a player's maximum (1RM) and power sets (Set 2) between 30-60% of 1RM; the repetition and set ranges should be 1-5 and 3-5 respectively; and the rest periods between sets should approximate 1-3 minutes depending on the training phase. Also, some tennis players, in a shift away from *Complex Training* in its purest form, will complex such that Set 1 comprises of a stroke-related plyometric exercise and Set 2, an actual stroke (as represented by exercises with accompanying ## in the table). In these instances, the equipment used should allow for movement speed in Set 1 to be maximal (Schonborn and Van der Meer, 1999).

What about complex speed and agility training?

Complexing can also be applied to speed/agility training in much the same way as it is to strength and power training (Schonborn et al., 2000). In fact, all forms of overspeed/overload or resisted running are essentially ways of complexing movement training. The use of running sleds, parachutes, pulley systems, harnesses, weighted vests, etc allow players to perform their "strength sets" and then complete their "power/speed sets" devoid of any additional weight or impedance.

Summary

In modern tennis, power is at a premium. While appropriate strength work is a foundational and injury preventative must, the rate at which force is developed (RFD) in many strength exercises is not specific to tennis. For example it takes around 400msec to develop maximum force during a bench press, yet the forwardswing of a tennis forehand will last little over 120msec. Complex training however, where strength exercises are paired with mechanically comparable plyometric exercises, may negotiate this conundrum such that power in tennis stroke and movement production can be increased.

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When "complexing", performance of a set of jump squats or jump smashes would be preceded by a set of a heavier resistance exercise such as the conventional back squat.

Mini-Tennis

The Five Game Situations in Mini-Tennis

by Mark Tennant
(Senior Coach Education Tutor, Lawn Tennis Association, England)

When coaching children at Mini-Tennis level, it is imperative to create a club environment that will retain and develop players, both as tennis players and people. Tennis is essentially a simple game, which coaches are sometimes guilty of over-complicating. The use of tactics as the context for any technical work is therefore a key element in enabling children to learn through a series of game situations. This article identifies the 5 game situations in singles, and suggests how tactics and techniques can be taught together.

For young children, the game must be kept simple, and the lesson environment should provide for:

- balance between enjoyment and quality learning
- the child's personality to emerge through the game
- learning about own performance and discovery of own needs
- learning to problem solve
- development of the understanding of good quality practice and effort, whilst enjoying the challenge of learning
- developing social and interactive skills

Key principles of a Mini-Tennis programme

- **Content to match the 'windows of opportunity'**. The Long Term Player Development Programme identifies specific periods in a child's development during which certain skills should be developed. Between the ages of 6-10, agility, balance, coordination (ABC's) and varied movement patterns are key priorities.
- **To develop the FUNdamental skills and athletic base**. If developed early and correctly, the ABC's help to provide the physical and technical base on which the rest of the players' game can be built as they get older. These skills can also be developed through other sports.
- **Developing appropriate simple shapes and movements that can be adapted for different game situations**. Basic techniques that can be adapted for different tactical situations should be developed during Mini-Tennis. For example, a simple looped low to high swing for a forehand at the back of the court can be adapted by the child to play a wide forehand, inside-out forehand, lob or drive volley at a later stage.
- **Competition should complement training**. Competition should therefore be used as a means of applying the physical, technical, tactical and mental skills which the child needs to learn. The opportunity to develop these skills and the way in which they are being used in matchplay, rather than who wins, should be the priority.
- **Giving all players an equal chance**. It is not possible to identify which players may be champions of the future during Mini-Tennis because children have not fully developed their full repertoire of skills, and still have much growing to do. Consequently all children should be treated equally. However, those who show greater aptitude and motivation to learn to play better can be offered differentiated tasks to help them to improve at their own speed, or may be offered additional coaching. However, a talented 7 year old is still a 7 year old!

The structure of Mini-Tennis in the UK

As in many other countries, Mini-Tennis in the UK is based on progressive court sizes, with suitable modified balls and racquets.

Mini-Tennis Red	Mini-Tennis Orange	Mini-Tennis Green
Court 12m x 6m	Court 18m x 9m	Full size tennis court
Red balls (sponge or low compression)	Orange balls (low compression)	Green balls (low compression)
Racquets 19"- 23"	Racquets 23", 25" Doubling up (to help the transition between red and orange)	Racquets 25", 26", 27

Game situations and tactical objectives

The following game situations and tactical objectives are important for children to learn in Mini-Tennis.

Game situations	Tactical objectives
1. Serving (overarm) (Red, ages 6-8)	1. Ball over and in (Red, ages 6-8)
2. Returning serve (Red, ages 6-8)	2. Move the opponent (Red, ages 6-8)
3. Both back (Red, ages 6-8)	3. Maintain own court position (Red, ages 6-8)
4. Approaching or at net (Orange/Green, ages 7-9)	4. Use strengths (Orange/Green, ages 7-9)
5. Opponent approaching or at net (Orange/Green, ages 7-9)	5. Play to opponents weaknesses (Orange/Green, ages 7-9)

Overview of game situations and tactics with areas of technique to be developed:

Serving – Objectives for Red/Orange

- To get the ball over and in consistently
- To move the opponent (serving to the forehand and backhand)
- Techniques and goals to develop strong throwing action
- Techniques and goals to develop sound contact point
- Techniques and goals to maintain static balance through the entire action
- Quick and alert ready position for the return

Returning serve – Objectives for Red/Orange

- To get the ball over and in consistently
- To attack or move the opponent
- To show alert ready position
- Techniques and goals to return off forehand and backhand
- To recognise slow/short serve and move to it

Both back – Objectives for Red/Orange

- To get the ball over and in consistently
- To move the opponent
- To maintain good court position
- Techniques and goals to move quickly into position
- Techniques and goals to develop correct simple actions for both strokes
- Techniques and goals to develop strong contact point
- Techniques and goals to play on balance, and to recover for the next shot

Approaching or at the net – Objectives for Orange/Green

- To get the ball over and in consistently
- To move the opponent (approach) or win the point (volley)
- To maintain good court position
- Techniques and goals to recognise a short ball and to play the approach
- To be alert and agile at the net
- Techniques and goals to differentiate between groundstroke and volley

Opponent approaching or at the net – Objectives for Orange/Green

- To get the ball over and in consistently
- To move the opponent
- Techniques and goals to play the lob
- Techniques and goals to play passing shots

Some key constants

Whilst there are clearly many areas to be developed whilst children are at Mini-Tennis level, the following 'rules' are important in ensuring that every lesson is productive and helps to develop the game skills necessary to play well:

- To try one's hardest in every lesson – understanding that effort is more important than results
- Generic and specific physical work in every lesson – to develop the necessary physical base for the future
- Appropriate mental skills involved in every area – to help players to enjoy learning, and to start to develop confident, independent and problem-solving minds on the court
- To act and play with respect for the coach and other players
- A serve should start every rally, in order to maximise practice time and repetition of the serve, and to offer the opponent practice time and repetition of the return.

Successful and effective Mini-Tennis coaching has at its core a coach who understands the needs of children, who understands the work that needs to be done in Mini-Tennis in order to provide the athletic base for the future, and who can enthuse children by allowing them to learn the techniques through tactical game situations. These situations enable the child to adapt basic techniques to suit the tactical situation, to individualise their game and to start to develop their own game style for the future.

This article is a transcript of a presentation given by Mark Tennant at the 2003 Tennis Europe Specific Theme Conference in Vilamoura, Portugal.

Off Court Psychology Activities

By Ann Quinn (Ph.D., Quinnessential Coaching, Melbourne, Australia)

It may be pouring with rain, or perhaps you cannot get a court or find a good practice partner, however that does not mean that you stop working on your game! It is the perfect time to work on your mental skills. The purpose of this article is to give you practical examples of ways you can mentally train without even leaving your lounge room.

1 PLAN FOR SUCCESS

Firstly, write down all those areas of your game that need more work. Give yourself a score out of 10 for each area, 10 being outstanding, 5 being average and 1 being poor. Next step is to write down what it will take to score 10 in all of these areas. If you rate yourself a 6, what will it take to get you to a 10? Talk to your coach. What would she say you need to do? What are the action steps needed to achieve a 10? You need to clearly define each and every step along the way and a target date to achieve each step. Make sure they are challenging goals that are believable and desirable. The more detailed and clear they are, the easier it will be to reach them and quicker you will get there. People with goals succeed because they know where they are going.

2 MAKE A SUCCESS POSTER

Make a treasure map or poster of exactly how you want to play, what you want to achieve, and how you want to look. Go through old tennis magazines and find pictures of your favourite players that reflect how you want to look on court. Add reinforcing messages that your coach may constantly tell you and good quotes to keep you focused and goal-oriented. Display it prominently in a place so you see exactly what you want to achieve everyday.

3 BECOME AN ACTOR

Your thoughts, feelings and actions all affect one another. If you act confidently, you feel confident. Try walking tall, with your head and shoulders back and a spring in your step. It is hard to feel down. Your body language can be used in many ways: to help rid you of negative emotions like fear and discouragement; to intimidate your opponent and show her what a fighter you are; as well as to demonstrate your confidence and composure. However like all actors, you must rehearse and practice. And don't wait until you are on stage (court) to do it. It takes practice and lots of it. Practice in your own home in front of the mirror, walking tall around the house, pumping

To foster that feeling of success, players can design a poster that features their favourite players and reflects how they want to look on court.

your fist. Your script is to exude confidence, positive energy, calmness, fight, and determination. Picture in your mind the type of player you want to be and begin acting like that player. Have fun practicing and you will learn to be a winner both on and off the court.

4 CATCH YOUR THOUGHTS

Whilst sitting around home, catch your thoughts… what are you thinking? Are you occasionally negative; do you doubt yourself? To think like a winner, you must be positive all the time. The conversations you have with yourself (often referred to as self-talk) are crucial for moulding attitudes and beliefs. What you focus on is what you get. For self talk to be of benefit, you must learn to control it all the time, not just on the court. We are exactly what we think we are. Great players learn to control their self-talk so it is only filled with positive statements. Challenge yourself to greatness. Compliment yourself regularly and acknowledge what you are doing daily. Most importantly, speak to yourself like you mean it, full of energy and vibrancy! The stronger the feeling, the greater the excitement and energy and the quicker the manifestation. Speak with confidence to create it on and off the court.

5 PLAY ON CUE - USE CUE WORDS

When you can't get on court, a great way of practicing is to shadow strokes, preferrably in front of a mirror or a window where you can check your form. For each stroke, select a cue word. Get your coach to help you choose the best word for you for each particular stroke. For example, it could be early, low, dynamic, or feet. Practice playing the strokes and saying the cue words. This is a useful way of focusing or re-focusing when concentration is broken during a match. It's an exercise that is ideal for a rainy day or as a warm-up.

6 NOW

You know you have to play in the now and not think about past mistakes and get angry with yourself, or think about winning and then choke. But how do you do that? One of the best ways to practice the maintenance of moment-by-moment focus during a match is to learn meditation, yoga or deep breathing. This is a learned skill – just like your forehand and must be practiced regularly for best results. You'll be amazed at how much better you can concentrate and relax on court.

7 MAKE A TAPE

A great way to mentally prepare off the court is to make a tape of about five of your favourite songs that stimulate the feelings of confidence and enjoyment. Your aim is to trigger the way you want to feel when you play your best tennis. Once a tape is made, listen to it several times a week – on your way to tennis, in the car, on planes – and visualise playing outstanding tennis whilst listening to the music. Become so familiar with the music that whenever you listen to it or play the song in your head, you trigger your ideal performance state. Have fun with it. It is a great way to mentally prepare for your matches.

8 DON'T PHONE HOME – PHONE YOU!

If you are lucky enough to have one of those mobile phones that take movies or pictures, use them as part of your pre-match preparation. Take photos of exactly what you want to look like on the court – intense, aggressive, calm, focused – whatever the look, photograph or video it and watch yourself performing exactly as you wish. As the saying goes, a picture is worth a thousand words. Create those perfect images in your mind first and then create them on court.

IN CONCLUSION

Mentally preparing for a match is much like going to the gym to do fitness training. You can't get physically fit in a weekend. You need to keep going back to build up your emotional muscles! Success depends on spaced repetition and regular immersion, to help you fully integrate these powerful techniques into your life. Make good habits and they will make you.

Match Statistics and their Importance

By Howard Brody (Professor, Physics Department, University of Pennsylvania, USA)

As a tennis coach you can record all types of statistics about a tennis match – first serve percentage, unforced errors, winners, double faults, etc. – but what good does it do you? Some of the numbers may be misleading, some may be almost useless, but some, with the proper interpretation, may allow you to modify or change a player's pattern of play in a productive way. How can you tell whether you are just wasting time and effort in recording lots of numbers or whether you are ending up with useful knowledge?

To begin, let us examine **first serve percentage**. Many TV analysts and journalists will tell you that if that number is less than 60%, the player is not serving well. As was pointed out in my article in the last issue of ITF CSSR, it is the percentage of points won on serve that is most important, not first serve percentage. It was shown that if it is possible to end up winning MORE service points with a lower first serve percentage, then that should be the tactic employed.

Let us next look at **double faults**. The actual number of double faults by a player in a match is almost a meaningless statistic. Of course, you would expect more double faults in a three set match with many games going to deuce and tie-breaks compared to a two set match and a high first serve percentage. How do you quantify this? A more pertinent statistic is the percentage of double faults per second serve. A good tournament player with a good second serve will usually end up getting that serve in about 95% of the time. This leads to about one double fault per set. Is this good enough? Just as with the analysis of the first serve, this analysis depends on how much the point winning percentage depends on the quality of the second serve. By hitting the second serve harder and getting only 80 to 90% of them in (and leading to more double faults) a player may end up winning more second serve points. Just remember Sampras hitting an occasional 200 kph second serve (and clearly increasing the risk of a double fault) because if it went in, he had a very good chance of winning the point. If the first serve percentage is low (around 50%), the player gets to hit as many second serves as first serves. It is therefore important to optimise the winning percentage on second serves rather than just getting it to go in and not double faulting.

Another favorite statistic is **winners**

and errors. Just the raw numbers do not tell the full story. More detail is needed. It is actually unforced errors that are being recorded along with forced errors. However, there should be a third category, FORCING errors. Those are errors made while trying to quickly end the point by hitting a winner, forcing the opponent to return the shot very weakly or forcing an error. Actually, in each case it should be a percentage value that is recorded and examined. If the match is played where each point lasts 10 to 20 strokes, you would expect more unforced errors than in a match where the average point lasts just a few strokes.

The percentage of errors made when attempting to hit a forcing shot compared to the total number of forcing shots is an interesting and useful statistic. In addition, the number of your winners plus your opponent's forced errors divided by the number of your forcing shots attempted is a useful percentage to know. These sorts of numbers give a good indication of how aggressive a player is in the match.

It is interesting to note that when a statistical prediction of **what is needed to win a single game** is done, it does not require a very high percentage of points won for a player to win a high percentage of the games played. For example, if when serving, you can win 65% of the points played, you should win 83% of the games you serve. If you can improve your single point winning percentage to 70%, you should win 90% of the games played. On the other hand, if you only win 60% of the points played in a game, you should win that game 74% of the time. This means that a small increase in percentage of points won (from 60 to 65%) can lead to a larger increase (from 74 to 83%) in the chances of winning a game.

When receiving serve, if you can win 40% of the points, you will win more than 25% of the games you receive. This means that you have a very good chance of breaking your opponent's serve at least once in a set. In fact, under these circumstances, your opponent has only a 16% chance of winning six consecutive service games.

A comment often made by tennis analysts is that a particular player plays **the more important points better**. Are certain points more important than other points (on a statistical rather than psychological basis)? The answer is YES! From a given point score, if you win the next point, you have a certain probability or chance of winning that game. On the other hand, if you lose the next point you have a different probability of winning that game. Comparing these two statistical probabilities allows you to rate how important that next point is (on a purely statistical basis). If you are winning more than half of the individual points that you play, then the most important point for you to win is when you are down 30-40. If you are winning less than 50% of the points that you play, then the most important point to win is when you are up 40-30.

Conclusion

Some of the things said by tennis analysts and some of the advice given by tennis coaches may not always be correct. Each player and each match is different, and often generalities do not cover the specific situation a player is actually in. Careful analysis of the detailed statistics of the current match and also past matches may lead to a strategy that can increase the number of points won, and therefore, increase the chances of winning the match.

The percentage of errors made when attempting to hit a forcing shot compared to the total number of forcing shots can give a good indication of how aggressive a player was.

Control of On-Court Training in Tennis

By Miguel Crespo (ITF Development Research Officer) and Machar Reid (ITF Assistant Development Research Officer)

INTRODUCTION

Sport science emphasises the need to exhibit control over the training process (Viru and Viru, 2001) with a view to optimising both training quality and quantity. Historically, tennis coaches have lagged behind coaches of other sports, such as athletics, swimming, cycling, and team games (football, basketball), in the use of different training controls. In this way, these coaches may be better equipped to help themselves and their athletes recognise fatigue levels, prevent injury, avoid over training/reaching and burn-out and provide for maximal performance (Calder, 2003).

Monitoring training requires that the coach recognise that players adapt to training and stress in different ways and at different rates (**individualisation)**. The monitoring of individual responses to work and stress, both within and outside the training and competition environment, is therefore essential to maximise player performance (Wilmore and Costill, 1994).

The purpose of this article is twofold: to reinforce the need for coaches to use training controls during their daily practice with players and to present practical examples of these controls.

CONTROLLING ON-COURT TRAINING

Coaches need to understand the difference between players feeling tired and feeling fatigued after a training session. The former is a normal consequence of adaptation to training load, whereas the latter can be an indicator of maladaptation to training.

Most coaches and players will be inconsistent with their recording and monitoring of training sessions. Maintaining a daily record of the different training controls however, is necessary for the accurate evaluation of training loads and the player's "adaptability". A variety of means through which training can be controlled are provided in the table on page 14.

CONCLUSION

Central to training effectively is the need to train with sufficient volume (quantity) and quality. It is when this balance is not found that poor performance or injury becomes more likely. Controlling training with a view to providing for optimal performance and reducing injury potential is therefore key. The training controls detailed herein are some examples of how coaches can monitor training sessions and athlete progress with these goals in mind.

Readers are referred onto texts like *ITF Strength and Conditioning for Tennis* for related information.

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www.internationaltennisnumber.com.

Heart rate monitors and notational analysis systems are two examples of training controls regularly applied to tennis training.

What to control?	How to control it?	Practical application
Pre-training status (Calder, 2003)	Player self-test	How do you feel? Smiley faces questionnaire.
	Player self-tests or questions from the coach	Determine quality of sleep, morning resting heart rate and morning body weight, energy levels, self-confidence and self-esteem, muscle soreness, motivation and enthusiasm for training, attitude to work / study, health, injury, eating habits, diet, external stressors (family, friends, media, studies), etc.
Throughout the training	Coach observation	**Direct communication**: What the player tells the coach. **Body language**: Facial expression and colour, posture, signs of frustration, etc. **Performance**: Compromised skill execution, poor acceleration, heavy feet, poor or slow decision making / response time. **Psychological**: Low motivation, poor concentration, uncharacteristic aggression, low self-confidence and after agression.
Work-out intensity	Heart rate monitor	Using a heart rate monitor can help the player and the coach ensure exercise intensity matches the session's goals. It also provides immediate feedback to the player and a source of motivation. > 85% of maximum heart rate (MHR): effort will be anaerobic lactic. [a] 55-65% MHR: effort will be aerobic.
	Analysis of blood lacate	Invasive method of monitoring both exercise intensity and training adaptation. It can be measured during (between games or drills) or after training.
	Players' rating	Player's subjective rating of session difficulty (physical load) and/or attitude to training. Rating of 5=Very difficult/Excellent 4=Difficult/Good 3=Normal/OK 2=Easy/Poor 1=Very easy/Very poor.
	Coach rating	Coach's subjective rating of session difficulty (physical load) and/or attitude to training. Rating of 5=Very difficult/Excellent 4=Difficult/Good 3=Normal/OK 2=Easy/Poor 1=Very easy/Very poor.
Stroke power	Radar gun	Advances in technology allow coaches to quantify increases in racquet velocity during stroke (groundstroke and serve) production (Quinn and Reid, 2003).
	2nd bounce of the ball	Lines positioned on the ground or the back fence to provide players simple, visual feedback pertaining to stroke power (ITN, 2004)
Stroke precision / consistency	Targets	Targets or zones provide for control of stroke precision / consistency.
	Number of balls over the net	Counting the number of balls hit over and in or the number of balls needed to hit a specific target help to monitor stroke precision / consistency.
	Stroke test	International Tennis Number ITN Test (CSSR 29, 2003; www.internationaltennisnumber.com)
Stroke production	Video analysis with software	Use specialised video analysis programmes: SiliconCOACH (**www.siliconcoach.com**), NEAT (**www.neatsys.com**), MoStill SE (**www.simi.com**), V1 (**www.internetsportsacademy.com**), Swinger (**www.swinger.com.au**), and Dartfish (**www.dartfish.com**) to facilitate the analysis and improvement of stroke technique (Knudson and Elliott, 2003).
Tactical performance	Tactical notation software	Use of hand or computerised notational analysis systems (such as ACE) to study player tactics and to obtain useful statistics from practice or competition matches (Hughes and Tillin, 1995).
	Tactical video analysis	Watch video replays/footage to determine tactical patterns of play.
Psychological	Psychological analysis performance	A player's mental performance during practice or matches can be analysed with software hand or computerised psychological analysis systems (Slder, 2001).
	Psychological video analysis	Use video analysis to evaluate the "body language", mental "strength", etc a player exhibits during matchplay.

Recommended Books, Videos and CDs

Books

Tennis Training (Tennis training). Authors: Alex Ferrauti, Peter Maier and Karl Weber. Year: 2002. Pages: 291. Language: German. Level: Advanced. ISBN: 3-89124-875-X. This book presents the latest developments in tennis training theory and practice. It is written to give coaches an understanding of the practical application of sport science to daily coaching. Contents include research results, as well as more than 120 practical exercises and drills for technical, tactical, physical and mental training. It also provides coaches with information on nutrition, hydration, periodisation and planning. The authors

are Professors at the Sports Universities of Bochum and Cologne (Germany) and help the German Tennis Federation (DTB) with the delivery of their highest level coach-ing course. For more information contact: *verlag@meyer-meyer-sports.com*

Wheelchair Tennis (El tenis en silla de ruedas). Author: David Sanz. Year: 2003. Pages: 248. Language: Spanish. Level: All levels. ISBN: 84-8019-674-2. This book details the fundamentals of teaching wheelchair tennis. Its eight chapters touch on the following topics: 1. Introduction to handicapped sports. 2. Basic and specific characteristics of wheelchair sport. 3. Introduction to technique and tactics of wheelchair tennis. 4. Drills and games. 5. Differences between able-bodied and wheelchair tennis. 6. Specific physical conditioning for wheelchair tennis. 7. Organisation of wheelchair tennis tournaments and the promotion of the sport. 8. Advice for coaches and players to teach and play at their best. The author is the Director of Coaching for the Spanish Tennis Federation and National Coach for the Spanish Wheelchair Tennis Team. For more information contact: *www.paidotribo.com*

Key Drills for High Level Tennis (Exercices incontournables pour le haut niveau). Authors: Jean Claude Massias and Bernard Pestre, French Tennis Federation. Year: 2003. Pages: 35. Language: French. Level: High level. ISBN: 2-907-267-94-9. This book presents a series of "must-do" drills for high level tennis. It considers the evolution of tactics in the five game situations (serve, return, baseline game, approaching the net and passing the net player) and outlines 13 different drills: 1. Precision and consistency of the 1st serve. 2. Aggressive return of the 2nd serve. 3. Winners. 4. Power and consistency from the baseline. 5. Cross court rally and down the line winner from the baseline. 6. Serve and volley. 7. Wide serve and inside out forehand. 8. Combination of drive volley and "classic" volley. 9. Playing inside the court. 10. Passing-shots. 11. Smash. 12. Doubles game, and 13. Footwork. Massias is the National Director of the French Tennis Federation (FFT) while Pestre is the Director of Coaching for the FFT. For more information contact: *www.fft.fr*

Videos

10 Tennis Videos from the Advanced Tennis Research Project. Year: 2002. Serve: Volume 1. The modern pro forehand: Volume 1 and 2. One handed backhand: Volume 1. Two handed backhand: Volume 1. Return of Serve: Volume 1. Attacking Sequences: Volume 1. Baseline sequences: Service Points - Volume 1. Baseline Sequences: Return Points - Volume 1. Pete Sampras and Greg Rusedski: Digital serving comparison. Author: John Yandell. Language: English. Level: Advanced. These videos provide high-speed footage, absent of commentary, of the stroke production of the world's best players. Footage of Agassi, Hewitt, Safin, Roddick, Ivanisevic, Haas, Sampras, Kuerten, Philippoussis, Rusedski, Dent and Arthurs is available. For more information contact: *www.advancedtennis.com/atrp/atrp.htm*

Das Spiel der Champions: Vorhand-Schlag (The Champions Game: Forehand). By the French Tennis Federation. Analysis of the mechanics of the modern forehand. Year: 1995. Language: German. Level: Advanced. Duration: Approx. 30 min.

Das Spiel der Champions: Rückhandschlag (The Champions Game: Backhand). By the French Tennis Federation. Analysis of the mechanics of the modern backhand. Year: 1998. Language: German. Level: Advanced. Duration: Approx. 30 min. These two videos have been translated into German thanks to an agreement between the French and German Tennis Federations. For more information contact: Fédération Française de Tennis, 2, Avenue Gordon Bennett, 75016 Paris, France.

L´Allenamento del tennista di alto livello (Training of the high level tennis player). By Alberto Castellani. With: Adrian Voinea, Julian Vespan, Riccardo Capanelli, Andrea Grasselli and Roberto Tarpani. This video highlights an advanced training system that involves on-court mental training drills, coordination exercises and other technical and tactical drills applied by the author in his work with high performance players. Year: 2003. Language: Italian. Level: Advanced. Duration: Approx. 60 min. For more information contact: *www.albertocastellani.it.*

CDs

LTA CDs. Year: 2003. **The space between 6-16.** Language: English. Level: All levels. This CD presents the fundamentals of player development between 6-16: theoretical background, LTA overview, annual plans, and weekly training programmes for each age group. The information is introduced in a user-friendly manner with clear examples and guidelines regarding the *in's and out's* of working with players of these ages. This resource is part of the LTA Long Term Player Development Programme.

The Science of Tennis. Year: 2002. Language: English. Level: All levels. This CD outlines the roles played by engineering, science and technology in tennis. Modules include: tennis shoes, tennis racquets, tennis balls, and courts and surfaces, and each has an index screen listing the topics covered. An interactive question and answer session is also a feature of each module. For more information contact: *www.lta.org.uk*

14th Worldwide Coaches Workshop to be held in 2005

GUIDELINES FOR NATIONAL ASSOCIATIONS INTERESTED IN HOSTING THE EVENT

Following the success of the 13th ITF Worldwide Coaches Workshop held in October 2003 in Vilamoura, Portugal, the ITF wishes to begin preparations for the next Worldwide Workshop which will be held around October/November 2005. We wish to invite National Associations interested in hosting this unique educational event to submit their proposed bid in writing to the ITF Development Department before 15 June 2004.

With a view to the event being hosted in the different regions of the world by rotation, preference may be given to applications from countries in America, but any National Association which wishes to apply is welcome to put forward a proposal.

In submitting a proposal to act as host nation for the Workshop, National Associations should consider the following:

1. The venue for the Workshop must be located close to an airport with good international connections.
2. The venue should have a court with seating for at least 350 people for the on-court presentations. An indoor court may be necessary for the on-court presentations if the weather at that time of the year requires it.
3. The venue should have an indoor lecture room which will seat at least 350 people. Proximity of the lecture room to the court is important.
4. Hotel accommodation at the venue should be reasonably priced and ideally all participants should be accommodated in one hotel.
5. The host nation would be expected to nominate an appropriate English-speaking staff member to help with arrangements and to liaise with the hotel and ITF London in the months prior to the event, and a minimum of two bi-lingual staff members dedicated to working on site with ITF staff throughout the event itself.
6. Proposals should include any additional items which the host nation would be able to provide such as special dinners, free transportation to and from the airport, audio visual equipment, free internet access for participants etc.

All proposals for hosting this event must be submitted directly in writing by the National Association of the country concerned to the ITF Development Department in London by 15 June 2004 at the latest. More detailed Guidelines are available from the Development Department on request (email: *tori.billington@itftennis.com*)

Subscription to "ITF Coaching & Sport Science Review"

ITF Coaching & Sport Science Review is produced 3 times a year in April, August and December. Subscription is available on a one year basis and the cost (including postage) will be as follows:

1 year subscription £9.00 (£3.00 per copy) = US$ 15.14 ($5.05)*
* equivalent US$ rate as of November 2003.

Should you take out the subscription part way through the year, you will receive the back issues from the beginning of the year in question and the appropriate amount of future issues.

If you wish to subscribe, please fax the Tennis Development Department on **44 20 8392 4742** to obtain the Personal Details Form and the Credit Card Payment Form. When completed you can fax it back to us on the same fax number.

Please remember that ITF Coaching & Sport Science Review can be accessed on our website at www.itftennis.com – coaches news – development in subsection "Educational Materials".

Should you have any questions or queries, then please do not hesitate to contact the Tennis Development Department on fax: 44 20 8392 4742 or e-mail development@itftennis.com.

International Tennis Federation
ITF Ltd, Bank Lane, Roehampton, London SW15 5XZ
Tel: 44 20 8878 6464 Fax: 44 20 8878 7799
E-mail: itf@itftennis.com Website: www.itftennis.com
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