



## Editorial

Welcome to issue 30 of the ITF Coaching & Sport Science Review – the second issue for 2003.

In continuing with our annual commitment to produce one monographic issue of ITF Coaching & Sport Science Review, this issue is dedicated to the subject of Tennis Psychology with a particular emphasis on the practical aspects of psychology applied to competitive tennis. We are delighted that some of the tennis world's leading psychologists and researchers have contributed to this issue.

The contributors, to whom we would like to extend our warmest thanks, are:

- Isabel Balaguer (Professor of Sports Psychology at the Faculty of Psychology, University of Valencia, Spain).
- Paul Dent (Former Coaching Excellence Manager and National Coach for the LTA).
- Joan L. Duda (Professor of Sport Psychology at the School of Sport and Exercise Sciences, University of Birmingham, UK).
- Antoni Girod (Master in Neuro-Linguistics Programming, AG performance, France).
- Dan Gould (Professor at the Department of Exercise & Sport Science, University of North Carolina Greensboro, USA).
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- Ann Quinn (Former Director of Coaching for Tennis Australia and Member of the ITF Coaches Commission).
- Kawaljeet Singh (Director of Coaching, Chandigarh Lawn Tennis Association, India).
- Robert Weinberg (Professor at Miami University, Ohio, USA).
- Janet Young (Former Australian Fed Cup Player and TCAV member, Manager Women's Tennis, Tennis Australia).

The 13th ITF Worldwide Coaches Workshop will be held in conjunction with the Portuguese Tennis Federation at the Dom Pedro Golf & Conference Centre, in Vilamoura, Portugal from Monday, 20 to Sunday, 26, October 2003. Please see inside for more information including the tentative programme. We hope to see you there!



*Will is crucial to achieve high performance at competitive level*

Dave Miley  
Executive Director, Tennis Development

The ITF has produced a new publication: the "ITF Strength and Conditioning for Tennis" which is available for purchase from the ITF website, [www.itftennis.com](http://www.itftennis.com). Readers will find more information regarding this publication on page 16 of this issue.

In producing ITF Coaching & Sport Science Review, we hope that the articles continue to stimulate healthy discussion among coaches. As always, we welcome your comments on any of the information published in the Review. Similarly, if you have any material that you believe would be of interest to our readership, please forward it to us for consideration. Finally we would like to remind all of you that ITF Coaching Sport & Science Review is available in the "Coaches News" section of the ITF website, [www.itftennis.com](http://www.itftennis.com).

We hope you enjoy issue 30.

Miguel Crespo  
Research Officer, Development

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# Phases of World-Class Player Development

Paul Lubbers, PhD (USTA) and Daniel Gould, Ph.D. (Department of Exercise & Sport Science, University of North Carolina Greensboro)

How does one become a tennis champion? What does it mentally take to become a world-class player? Countless coaches, young players, federation officials, and fans of the game have asked this question. Yet, no consensus has been arrived at from those in the field regarding key components needed to be a champion and the sequencing of subsequent activities. Sport science researchers, however, have begun to scientifically study the issue and have identified keys for guiding the progressive development of a world-class player. This article will briefly discuss some of these keys.

The progressive development of a world-class performer is a long-term process that research has suggested takes a minimum of 10 years or 10,000 hours (Ericsson, 1996). Further research shows that world-class performers go through distinct phases of talent development. According to Bloom (1985) and Gibbons (1998), elite athlete development is broken into the following three stages.

## • Stage 1: Introduction/Foundation.

Having fun and developing a love of the game characterise this phase. In addition, the individual is free to explore multiple sports, experiences success but little pressure to perform, and receives encouragement from coaches and parents.



World class tennis is serious business for the player

## • Stage 2: Refinement/Transitional.

During this phase the athlete evolves into a “serious” player. She no longer wants to just play tennis; she wants to be a good “tennis player.” Most often, the athlete enlists the help of a master coach that specialises in refinement of skills and fundamentals.

## • Stage 3: World Class Performance.

This phase is marked by many hours of practice and the honing of technical skill and expertise into personal excellence while competing at the highest level of competition. While the player maintains a love of the game, tennis becomes a serious business and significant part of one’s life.

What is so interesting about these stages is that players do not begin the careers with championships in mind. Instead, they become exposed to tennis, enjoy, derive satisfaction and fall in love with the game. Then after falling in love with the game, they progress into more serious and focused involvement. Thus, in the early years of involvement, the best way to produce a top player is to do the same things needed to grow the game with all children — encourage fun, fundamentals and involvement. Once this foundation is built, a more focused and intense approach evolves.

One variable in the **first stage** that is particularly important to the ultimate development of the player is the acquisition of fundamentals. The successful acquisition of fundamentals is the cornerstone of continued technical, physical and mental development as the player moves through the developmental stages. After all, it is hard to enjoy and fall in love with the game if you can’t consistently make and return shots. In addition to making the experience fun and teaching fundamentals, the primary mental skill to focus on in the early years of involvement is the enhancement of self-esteem via heavy doses of positive instruction and encouragement. If this does not occur, it leads to self-doubt, anxiety and motivation concerns in subsequent stages.

In **middle stage** of involvement, the developing player must learn how to practice with purpose and intensity. She must further refine fundamentals and learn what it takes to become a positive

competitor. Goal-setting becomes particularly important in this stage. Players must not only learn to set goals, but the right types of goals (specific, challenging but realistic, outcome, process and performance goals). Players must also learn concentration skills, develop stress management strategies for dealing with the pressures that result from intense practice and play, and mental preparation strategies.

In the third, **world-class performance stage**, the players must find ways to continually challenge and motivate themselves because performance gains will come at a slower pace. Learning to maintain focus and deal with distractions on and off the court are considerably important in this stage, as the successful player will spend more time in the limelight. Finally, the player in this stage must develop self-regulation skills. That is, while coaching is still critical, the player will be must learn to make decisions for herself and manage an increasingly complex physical and social environment.

In summary, world-class players are developed through stages and those involved in tennis must understand these stages. Certain skills are emphasised during each stage and it is important that over zealous parents and coaches do not try to skip stages in an attempt to make players champions before they are ready. For the development of tennis talent is a fragile process that takes time and quality support from all those involved.

## References

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# Effective Goal-Setting for Tennis Players and Coaches

By Robert S. Weinberg (Professor, Miami University, Ohio, USA)

Over the years, many tennis coaches, professionals, and players have alluded to the importance of goal-setting in achieving top performance. Along these lines, there have been anecdotal reports and quotes by coaches and players alike, indicating that goal-setting can enhance motivation and increase performance. It has been my experience that tennis players and coaches do not typically have a problem setting goals. Rather, they have difficulty setting the right kind of goals, goals that enhance motivation, keep them focused and improve performance. Tennis players typically do not need to be convinced that goals are important; rather they may need to be instructed concerning the most effective types of goals to set.

There has been a tremendous amount of goal-setting research in the industrial/organisational literature, and more recently in the sport psychology literature. My goal in this paper is to highlight the different types of goals that can be set, discuss why goals work, and then present some of the consistent findings from the literature on goal-setting applied to tennis. I will then highlight the most important principles of goal-setting emanating from research.

## Goal-Setting: Definitions and Types

In most goal-setting studies, the term **goal** refers to attaining a specific level of proficiency in a task, usually within a specified time limit. From a practical point of view, goals can sometimes be more objective and thus more quantifiable, such as improving one's tennis first serve percentage from 55% to 60%, or more subjective such as increasing satisfaction with playing on a high school team which is harder to quantify.

Sport psychologists have also distinguished between outcome, performance, and process goals. More specifically, **outcome goals** usually refer to winning and losing such as winning the national championship. Thus achieving your goal depends, at least in part, on the ability and play of your opponent. **Performance goals** refer to one's actual performance in relation to their own standard of excellence (e.g., reducing unforced errors from 20 a set to 15 a set) and are under the control of the

performer. Finally, **process goals** are usually concerned with how a tennis player performs a particular skill and thus oftentimes these are the focus of goals in practice or training (e.g., keeping your racquet head below the ball on groundstrokes). Although cases can be made to focus on one type of goal or another, the research clearly indicates that process and performance goals are particularly important for players to focus on since they are more in their control.

## Why Goals Work

The most often discussed explanation of goal-setting is termed the mechanistic explanation. This approach argues that goals influence performance in four distinct ways: (a) directing attention, (b) mobilising effort, (c) enhancing persistence, and (d) developing new learning strategies.

One way that goals can influence performance is by directing a player's attention to the task and the relevant cues in the tennis environment. In fact, our research with high school and college tennis players and coaches has found that the most important reason they set goals is to focus attention on the task at hand (e.g., improving their passing shots or backhand cross-court). Goals also increase effort and persistence by providing feedback in relation to one's own performance. For example, a tennis player may not feel like working hard day after day or feel bored with the repetitive routine of practice. But by setting short-term goals and seeing progress toward achieving her long-term goals, motivation can be maintained on a day-by-day basis as well as over time. For example, a player might have a long-term goal of getting a college scholarship. But that might be a few years away and hard to imagine. However, every day in practice, goals can be set and reached in terms of improving on different strokes, which can help maintain motivation, keep the player interested and trying, and keep practices enjoyable (e.g., hitting a certain amount of consecutive groundstrokes past the service line and



*Effective goals help develop new learning strategies*

increasing this amount as time goes on and skill improves).

The final mechanism by which goals can influence performance is through the development of relevant learning strategies. For example, if a tennis player had a goal to reduce her unforced errors from 15 to 10 per set she might hit with more topspin, aim closer to the centre of the court (away from the lines) or hit more cross-court shots where the net is lower and there is more court available to hit. In any case, new strategies are developed to help the player become more consistent and reduce unforced errors.

## Consistent Goal-Setting Findings

Let me continue here by highlighting some of the most consistent findings from the literature regarding tennis and goal-setting.

- Almost all players employed some type of goal-setting to enhance performance and they found these goals to be moderately to highly effective.
- Goals should be prioritised based on the situation. In essence, tennis players are encouraged to use process, performance, and outcome goals, although process and performance goals should generally be emphasised, since they are under one's control.
- Major barriers to achieving goals include lack of time, stress, fatigue, academic pressures and social relationships.

- Goals should be moderately difficult, challenging and realistic.
- Players should use both short-term and long-term goals. Long-term goals provide direction and short-term goals provide motivation as well as making long-term goals seem more achievable, since sometimes, the “whole” can be daunting.
- Goal commitment and acceptance is important in keeping motivation high over time.
- Action plans facilitate the effective implementation of goal-setting strategies, although oftentimes, tennis players and coaches do not have action plans for how to reach their goals.
- Players using multiple goal strategies exhibited the best performance.
- The primary reason for setting goals is to provide direction and focus.
- Tennis players and coaches were not systematic in writing down their goals, although they thought about and visualised their goals.
- Goals plus feedback produce better performance than either goals alone or feedback alone. So make sure players are given feedback as they progress toward their goals.

### Goal-Setting Principles

It is apparent from the theoretical and empirical research, that goal-setting can enhance performance and personal growth in tennis. It is misleading to think, however, that all types of goals are equally effective in achieving these ends. Research has also revealed that not only is the type of individual important, but so is the motivational climate created by the tennis teacher or coach. The key, therefore, is to structure goal-setting programmes so that they are consistent with the basic principles derived from the literature as well as from professional practice knowledge. It is nonetheless important to keep in mind that the effectiveness of any motivational technique is dependent on the interaction of the individuals and the situation in which the individuals are placed. There are too many principles to fully discuss below, so the focus will be on a few of them captured by the acronym SMARTS. This refers to the fact that goals should be Specific,

Measurable, Action-oriented, Realistic, Timely and Self-determined.

### Specific Goals

One of the most consistent findings from the goal-setting literature is that specific goals produce higher levels of task performance than no goals or general “do your best” goals. Contrary to popular belief, “going out and doing your best” is not as powerful in enhancing motivation and performance as encouraging players to go out and achieve a specific goal.

### Measurable Goals

Not only should goals be specific but they should also be measurable. It provides more motivation when you have a way to measure the progress you are making toward achieving your goal. For example if you set a goal to improve your groundstroke consistency, how do you know that you are improving this aspect of your game unless you have a way to measure your performance and progress. So setting a goal to hit 20 groundstrokes in a row in practice between the service line and the baseline and then recording your performance will provide you with a measure of how much you have improved.

### Action-Oriented Goals

As aforementioned, one of the mechanisms underlying the effectiveness of goals in enhancing performance is the development of relevant learning strategies. Unfortunately, this aspect of goal-setting is often neglected, as goals are set without a solid series of strategies identified to achieve these goals. Setting goals without also setting appropriate strategies for achieving these goals is like setting a goal to drive from New York to Los Angeles in four days, but forgetting to bring a map. Thus, if a tennis player sets a goal to improve her first serve percentage from 55% to 60%, she needs to develop specific strategies to accomplish this goal (e.g., change her ball toss, increase her racquet speed, impart more topspin). The key is that some learning strategy needs to be identified and incorporated into the daily training regimen so that the tennis player can actively pursue the goal of improving her first serve percentage to 60%.

Another way to help keep goals action-oriented is to set both short-term and long-term goals as described earlier.

### Realistic and Challenging Goals

Another of the consistent findings from the research literature is that goals should be challenging and difficult, yet attainable (Locke and Latham, 1990).

Goals that are too easy do not present a challenge to the individual, which leads to less than maximum effort. Conversely, setting goals that are too difficult and unrealistic will often result in failure. This can lead to frustration, lowered self-confidence and motivation, and decreased performance.

### Timely Goals

All goals should have a specific time frame attached to them. In essence, you need to know by when you want to achieve your specific goals. Specifically, to use the previous example of hitting 20 consecutive groundstrokes between the service line and baseline, you should have a specific date by which you want to reach this goal.

### Self-Determined Goals

The intrinsic motivation literature is very consistent in indicating that tennis players should have some input into setting their goals. In essence, players need to feel some ownership in setting goals. The tennis coach should act as a “benevolent dictator” in helping players shape their goals while at the same time letting players have input into setting the goals. For example, the player should be first asked what she wants to accomplish in terms of goals and then the coach can suggest if the goal needs to be made easier or more difficult. For instance, if a player has a 1 to 5 winner to error ratio and wants to set a goal for a 1 to 1 ratio, then the coach might suggest that a 3 to 1 ratio would be more realistic and that it could be changed if the player reached this goal (by a specific date).

### Summary

One of the consistent misconceptions regarding goal-setting is that the mere fact that one sets goals would automatically make them effective. Because on the surface, there doesn't seem to be much to setting goals, many individuals do not understand that goal-setting is a comprehensive process comprising a series of systematic steps. But goal-setting theory and research emphasise that goal-setting is most definitely a process, and that its implementation requires a systematic effort. The SMARTS acronym highlights some of the important principles of goal-setting, which if used consistently and systematically by tennis players and coaches, can help enhance not only performance, but more subjective goals such as satisfaction, fun and intrinsic motivation.

# Practical Mental Skills Training

Chris Harwood and Paul Dent (Great Britain)

One of the most important lessons that you learn as a sport psychologist when working with coaches is to ensure that what you offer them are practical, doable activities that make sense, and have a high impact factor. This means activities that are very tennis-specific and game-relevant to the stage of development of the player with whom the coach is working.

On a day-to-day basis, coaches employ the principles and practices of sport psychology and with greater structure and clarity of purpose, their competence as a mental skills coach can be greatly enhanced. The aim of this article is to bring the most important mental skills in tennis to life within your daily coaching practice. We have purposely cut out sport psychology jargon and focused on the 'nuts and bolts' methods that we believe have the greatest impact on the mental skills development of the player. High impact methods include those coaching strategies that can immediately change the behaviour of a player as well as to condition and habituate the long-term psychological qualities that represent mental toughness. Seven core qualities are presented below with a brief definition followed by powerful ideas to develop that quality.

## 1. Developing a Self-Challenge Mentality

A critical quality for players to possess is the ability to view success in tennis in terms of their own personal best as opposed to merely winning/losing a match. Players need to learn that they can experience victory on the court through their personal performance, even though they may have been beaten by their opponent.

How do you coach players to develop this self-challenge mentality? Goal setting; review; effort reinforcement; develop-mental matches; rewarding process; process goals – Winner Assess the Rally (WAR)/Loser Assess the Rally (LAR) attributions (or this may come under personal responsibility).

## 2. Confidence-Boosting

One of the most important components of a player's psychological

state prior to and during a match is self-confidence. Therefore, what can you actually do as a coach to 'activate' a player's belief in his ability to perform well and compete effectively.

One of the primary means through which self-confidence can be developed is 'verbal persuasion' - from self and significant others. Thus, coaches should encourage players to talk positively to themselves.

## 3. Staying Focused, Saying Focused

During a match, a player's ability to stay focused on only those elements that are responsible for his performance is severely tested. How a player thinks and what he says to himself as events transpire during the course of a match are critical indicators of mental toughness.

How can coaches actually help players to stay focused and maintain consistently positive thinking? Positive court talk; concentrating on the process, the present, their routines, etc. One drill can be the following: Player states three things about his routine that are observable – coach and/or opponent can deduct a point from a player if he has not been seen to complete his routine.

## 4. Controlling Yourself

Mentally weak tennis players struggle to control their anxiety, anger, frustration and ultimately, body language on court when events go against them. The victim is the performance level of the player, the beneficiary is the opponent. Coaches are responsible for helping players to activate the right emotional temperature for the next situation rather than allowing the situation to control their temperature.

What activities help a player to understand, use and control their emotions? Psych-warfare/body language control-award points; developing reaction/response; acting 'as if'/personifying emotions. Act energised, act like a tiger, etc? breathing; bin it, mistake management.

## 5. Getting on Top and Staying There

There is a skill to gaining the momentum and getting on top of your



*Changeovers are crucial for refocusing*

opponent, as well as turning a match around when momentum has been against you in a phase of the match.

How do coaches work with players to understand momentum and to practice their ability to control the flow of the match? Encourage players to be Sharp/Smart at the start: 1st three games, play tiebreaks from different scores (i.e. 2-2, 2-5, ...), encourage the winning of back-to-back games by awarding double game scores for break+hold.

## 6. Fighting the Fear

We all know the big point situations in tennis and those events that can flood fear and anxiety into the arm of a player. These are the kind of situations that can cause players to become defensive, protect themselves from looking incompetent by playing safe as opposed to smart, aggressive tennis.

How do coaches actually work on court with a player to fight the fear of any situation and build up a titanium thick skin? Conditioned/Constrained games – specific risks and gambles; big point tennis with 1 serve only or from 15-40/40-15, etc.

## 7. Training Awareness and Personal Responsibility

After a match or during a training session, there are excellent opportunities for players to develop their self-awareness and recognition of improving skills as well as to take personal responsibility for their performance and development. Awareness and responsibility skills are critical features of a player with a self-challenge mentality. A mentally tough player knows where he is currently at, so he knows what he needs to do next.

What coaching drills and coach communication skills help players to shape their self-awareness and to take positive responsibility? WAR/LAR; Self-assessing performance. It's what players do in-between lessons that is the key. Coaches should use lessons to establish goals so that players are encouraged to develop themselves during the time between their lessons with the coach.

### Conclusion

The most effective sport psychology is common sense that is structured into

programmes and drills sharply focused on developing core qualities and responses in players. Knowledge of sport psychology principles is important, but most significant is the ability to translate those principles into game-relevant techniques. We believe that these common sense drills, when implemented consistently, can have profound effects on the behaviour of players and their understanding of the game. Give them a 'structured' try!.

# Purpose is Number One!

By James E. Loehr, Ed.D. (USA)

After nearly 30 years of work with tennis parents, I believe the single most important consideration for parents and coaches is getting tennis' purpose right. Purpose involves meaning and intent. It fundamentally concerns the "why" of things. Purpose questions in tennis include questions like, "why play tennis?", "why invest all the hard work, money and sacrifice?", "what's the meaning of it all?", "how does one justify all this investment?" and "what is the driving force (purpose) that will maximise tennis success and insure safe passage?"

Money, fame, world rankings and stardom are powerful drivers. They are also dangerous answers to the purpose questions raised above. Here is my take on getting purpose right for parents.

Tennis is a life experience that holds great promise. I believe exposure to tennis will be a positive force in the development of my child as a person. The most important consideration for me as a parent is who is my child becoming because of tennis? Is she stronger, more resilient, more mature because of tennis? What is she learning about life? All the money and time I'm investing is an investment in her as a person, nothing more. Tennis is a preparation for life in much the same way school is. The payoff that matters to me is not fame, world rankings or money but personal strength and happiness as an adult. Tennis is a controlled storm in the life of my child. All the pressure, disappointments, victories, injuries, setbacks and triumphs serve one fundamental purpose – to accelerate the

positive growth and development of my child as a fully functioning human being. If ever I believe this is not happening, I will intervene immediately. My role as a tennis parent is to insure safe passage for my child in the things that really matter – character, respect, discipline, self-esteem, honesty, commitment and integrity. This is my "why" of tennis and this is how I define success in tennis.

It's easy for parents to lose perspective as the dynamics of tennis work their way into family life. Losing perspective is losing purpose. The right purpose, in reality, becomes the only true reliable blueprint for making decisions, for taking action and creating meaning and value as players and families move through the sport of tennis. Some of the most important work coaches can do is to help parents get the purpose right.

I recommend the following:

1. Work with parents to prepare a written purpose (vision) statement that reflects their deepest values and gives the right perspective and meaning to the game of tennis in the life of their child.
2. Have parents sign and date the document.
3. Update/recommit to the document every year at a minimum.
4. Have the parents place the purpose statement so that it is highly visible in their lives. They are to refer to it constantly to help them navigate through the inevitable challenges of competitive tennis.



*Who is my child becoming because of tennis?*

# Visualization in Tennis

By Antoni Girod (France)

Among the many mental training techniques available to the tennis coach, visualization offers multiple advantages on the technical, tactical and mental levels.

Before explaining in detail the various practical applications of visualization, it is important to define the concept itself. Visualization is a process whereby internal images are produced consciously.

**You can only visualize something that you have seen before.** For example, if you ask a child who has never seen a serve in his life to visualize a service action, he will not be able to do it.

When a tennis player has an external visual reference, he can form mental images according to two different modes:

**1. The 'dissociated' mode.** The player pictures himself playing as if he was his own spectator.

**2. The 'associated' mode.** In this particular case, he pictures himself as the actor of the situation that he is visualizing.

Let us now examine the practical applications of visualization and first of all in the technical field.

On this subject, we can mention a very interesting phenomenon known as the '**Carpenter effect**'. An individual watching a tennis match or demonstration experiences an electrical brain and muscle activity which brings into play the muscles and brain areas that are actually activated by the players being observed. The neuromuscular programme being activated during the external visual observation means that the observer will experience sensations similar to those of the model, provided he then takes his racket and plays. Many young players thus learn by unconsciously imitating models that they keep on observing, unaware that they are using the Carpenter effect. This was for instance the case for Pete Sampras who was technically inspired by a video tape of Rod Laver that he was constantly watching.

Instead of simply relying on the natural phenomenon that is mimetism, visualization with a technical aim



*Prior to serve, players can visualize the point*

involves consciously repeating in one's mind strokes that have been observed by following a very precise routine:

1. Spectator of the model: I replay the film of the chosen model in my mind.
2. Spectator of myself: I replace the model. I picture myself playing like my model.
3. Actor: From the two previous steps, I repeat technical movements by shadowing strokes.

The technical image is recorded in the head before going to the muscles. This conscious effort of mental repetition facilitates technical learning.

In a different way, the coach can use visualization to prepare a match on the tactical level. To start with, he devises with his player a precise plan of action taking into account the strengths and weaknesses of both the player and the opponent. Then, he asks his player to imagine that he is standing courtside watching his own match in anticipation.

Being in the place of the spectator makes it possible to approach the match with the perspective and clear-headedness required to hone one's tactical choices. The player can also mentally put himself in the place of his opponent. He 'becomes' his opponent and imagines that he is playing against

himself, which allows him to anticipate his opponent's potential tactical choices and to find the right answers.

The player can make use of the same type of visualization in the course of the match during the changeovers to 'stand back' and find tactical solutions.

Finally, visualization is an excellent way to get ready mentally for the different scenarios of a match. To begin with, the player can visualize a **dream scenario** where everything goes well. His tactical plan works perfectly.

The match goes off according to plan, everything runs smoothly. In this first type of scenario, the player pictures himself as the winner. He therefore puts himself in a state of confidence to approach the match. Then, the player visualizes a second scenario: the **nightmare scenario**. Nothing goes right. He does not feel the game. He has absolutely no rhythm. The tactical plan that he had considered proves to be completely unsuccessful. Both the audience and the umpire are against him. And to crown it all, his opponent is playing some incredible tennis. In the face of so many difficulties, the player has to picture himself calm, in control of his emotions, ready to face adversity and determined to play point by point until the end of the match. In this second scenario, the player can imagine himself losing 6-0, 6-0 after fighting until the very end. He can then accept the notion of defeat.

Precompetitive visualization is a way to foresee a tennis match. But between what is expected and reality, there can be a big difference. Visualizing both the dream scenario and the nightmare scenario allows to have two extreme points of reference corresponding to the

potential outcomes. The player thus has the possibility to build up his confidence while releasing the pressure. He is ready for the best and for the worst. The reality of the match will lie somewhere between these two extremes.

The next time you find yourself in practice or before a match, if you hesitate, in your role as a coach, between a long explanation and a visualization exercise, remember that **'an image is worth a thousand words...'**

# Yoga and Tennis

By Kawaljeet Singh (Director of Coaching, Chandigarh Lawn Tennis Association, India)

## INTRODUCTION

The growing popularity of yoga in all spheres of life has definitely extended to sport, and more specifically, tennis. By combining means that develop specific components of **physical fitness with meditation and concentration techniques to relax and focus the mind**, the integration of yoga into tennis training can complement other physical, technical and tactical training protocols.

## YOGA AND TENNIS PLAYER DEVELOPMENT

Yoga can play a vital role in player development, especially if it is introduced from the early stages of a player's career. Age becomes an important criterion for integrating the breathing system so intrinsic to yoga, as experience has demonstrated that such breathing techniques essential for all asanas (exercises) in yoga are learned with greater ease in childhood. In application, learning to breathe correctly can help players to keep their **bodies relaxed** and **minds optimally functioning** during matchplay.

## CHILDREN AND YOGA

Children should learn some basic yoga exercises as part of an exercise routine that may be performed a couple of times per week. Benefits of yoga for children include:

- It helps children improve their flexibility and become more aware of how their bodies function.
- Introduces children to breathing exercises that are very important in advanced yoga.
- It can be enjoyable for children to experiment with new and different ways to relax.

## PERIODISATION OF YOGA PRACTICE

As yoga is a practice that can be

continued throughout a tennis player's life, its integration can be considered in terms of pre-competition (i.e. development), competition and post-competition (post-career) phases.

In the **pre-competition phase**, where tennis skills are being acquired and developed, yoga can complement the holistic development of aerobic and muscular endurance, flexibility and mental toughness. During this stage, relaxation and breathing techniques, which will be central to future success in competitive tennis, can also be built into regular coaching.

The exercises during the pre-competitive stage are very simple and quite similar to regular callisthenics exercises. Focus however must be placed on ensuring correct breathing.

1. Rotation of all joints with proper breathing.
2. Balance Asanas:
  - a) Tree pose.
  - b) Taar asan or Palm tree pose.
  - c) Natraj pose.
3. Basic breathing exercises.
4. Relaxation asanas (exercises).

In the **competition phase**, regular yoga practice can play an invaluable role in facilitating mental equanimity during and between matches, while also enhancing a

player's physical well-being and regenerability. More broadly, the benefits of yoga during this phase can be summarised as:



Cobra pose



Half spinal twist



*Breathing*

- Maintenance of flexibility and muscular strength.
- Advanced breathing exercises can aid psychological focus (i.e. by helping to block out negative thoughts) and physical recovery between points.
- Relaxation techniques can be enormously beneficial to pre-match preparations, routines during matches and post-match recovery strategies.
- Meditation drills can be selectively employed by the player to maintain higher levels of focus, relax or visualise match situations.

During the **post competition phase**, yoga can help players make a positive and well-balanced transition to life after tennis. The same yoga principles and methods that may have been used to good effect to enhance on court performance, will now be directed more concertedly to maintaining or improving quality of life.

### Common yoga asanas (exercises)

Some common yoga exercises that can be used during the above-mentioned phases include: In a standing position – Isolated rotation of all joints: neck, arm, shoulder, trunk, hip and wrist rotations. In a seated position – Butterfly, half butterfly, ankle rotations, Chakki chal asana (churning the mill), Tadasana (Palm Tree Pose), Triangle pose (Trikon Asana), Bhujang Asana (Cobra Pose), Dhanur Asana (Bow Pose) and Ardha Matsyendrasana (half spinal twist). See photos.

### Conclusion

Several authors have highlighted the mental and physical benefits of yoga for the tennis player (Bauman, 2002;

McMorris, 2000; Reid et al., 2003). Furthermore, in the opinion of this author, the practice of yoga can indisputably claim to be one of the most effective, least expensive ways of seeking and attaining the highest standards of holistic mind and body excellence. Its prescription can be as valuable for the young, developing player as it can be for the mental and physical health of the retiring professional.

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*Sunyanamaskar position 1*



*Sunyanamaskar position 2*



*Triangle pose*

# Improving Concentration

By Janet Young (Australia)

A coach can play a vital role in developing and improving a player's powers of concentration on the tennis court. While a programme needs to be tailored to the individual, a coach can adopt a number of strategies. To follow are some suggested approaches:

## 1. Identify task relevant cues

A coach can assist a player to identify (or revise) key task relevant cues (i.e. stimuli directly related to the process of performing) and the times in a match when a player should attend to such cues. For example, the way in which the opponent approaches the ball and what she is doing with the racquet swing can tell a player much about the shot to expect. It is important for a coach to explain that a player must constantly change focus throughout a match. This is perhaps best illustrated by describing the attentional demands in playing a point – a player's focus must constantly switch from a broad perspective, assessing all the factors that influence the type of shot to expect, before rapidly narrowing to focus on the ball.

## 2. Set goals

A player will generally concentrate better if challenged to perform well. A coach can assist a player to set specific goals that are 'parked' in a player's subconscious mind as she attends to the requirements inherent in achieving the goals. An illustration of a specific goal is for a player to record a straight set win in her next match.

## 3. Enjoy the game

A coach should be mindful that it is easier to concentrate on something that is enjoyable. The challenge is therefore for a coach to ensure the game is fun. In this regard, it is important for a coach to put competing/winning/losing in perspective for a player. Surely the essence of competing is to perform to the best of one's ability in an on-going process of self-improvement.

## 4. Attend to physical fitness

Since a loss of concentration can be due to a lack of conditioning, a coach needs to address a player's level of physical fitness. A coach can work with a player to ensure the player's fitness (at least) balances the demands of successfully competing.



*Routines during changeovers are important for concentration*

## 5. Practice technical skills

A player's concentration in a match can be adversely affected if the player is concerned with how to execute shots or hold the racquet on particular shots. Matches are not the time to focus on technique! The goal here is for a coach to develop the technical skills of a player to the extent that a player can forget about the mechanics of shot making and attend to what is happening in a match.

## 6. Develop match strategies

Prior to competing, a player needs a strategy that addresses how she: (a) plans to play important points and the match per se, and (b) might effectively deal with distractions (e.g. bad calls, windy conditions, spectator support for the opponent). A coach can provide invaluable input in this process by 'scouting' the opposition and knowing the strengths and limitations of her player. A coach can also guide a player in how to effectively deal with distractions. For example, a player can be encouraged to avoid distractions between points by adopting a ritual of adjusting the strings of her racquet.

## 7. Think about that one point

Concentration can be dramatically improved if a coach is successful in training a player to think about playing one point, and only one point, at a time. Worrying about missed shots or thinking ahead to winning/losing is the downfall of many players. A coach needs to instil in a player that each point should be played to the best of a player's ability regardless of the score.

## 8. Develop a pre-match routine

Most top players use a warm-up ritual

to help them focus their mind for a match. For example, some players eat a specific meal two hours before warming-up for a match. The idea is for the routine to act as a trigger for the player to focus on the requirements of the match to be played. A coach can work with a player to develop a routine that suits the personality and needs of that player.

## 9. Develop a match routine

Similar to a pre-match routine, a routine during play can trigger a player to focus on the task at hand or refocus, if concentration has been lost. The routine can be quite simple or involve a series of activities. For example, a simple routine prior to serving is to bounce the ball several times. A more complex routine is for a player to take several deep breaths, then shift focus to a target in the service court, attend to her stance and finally focus on the ball toss. A coach can work with a player to develop appropriate routines to be used at pertinent times in a match.

## 10. Attend to emotions

Anxiety and tension can break a player's concentration in a match by diverting attention to her pounding heart, sweaty hands and rapid breathing. To minimise the chances of such a scenario, a coach can work with a player to identify the player's optimal emotional state (i.e. relaxed or excited) and the means of attaining and maintaining such under pressure. For example, for a player who needs to be 'psyched up' to perform well, a coach may recommend that the player listen to energising music prior to a match and 'jog on the spot' before receiving serve.

## 11. Use cue words

A useful means of maintaining focus, or re-focusing when concentration is broken, is for a player to use cue words or phrases. A coach can assist a player to select some meaningful ones (i.e. "hit early", "move in", "attack", "hit for the lines").

## 12. Simulate match conditions

A coach can design practice sessions to simulate the elements that disrupt a player's concentration. For example, if a player is concerned about competing at

Melbourne Park, a coach can arrange for a session to be conducted at this venue. The idea is for a coach to re-create the conditions that may lead to a loss/lack of concentration so as to 'acclimatise' a player to potentially distracting factors.

### 13. Practice concentration

A coach can incorporate the training of concentration skills in her teaching sessions. Many of the afore-listed ideas can be easily integrated into a coach's existing lesson structure. For example, if

a coach recognises a player is uptight, rather than instructing the player to "just relax", a coach can provide her with something specific to do (like "inhale ... exhale"). By giving the player a specific task, the player is more likely to feel relaxed and, further, she has learnt a technique to use again in a similar situation.

### Conclusion

This article highlights the role a coach can play in developing and improving a

player's ability to effectively concentrate in competitive situations. While there are numerous options available for a coach to adopt in this endeavour, ultimately all are designed to direct, or redirect, a player's attention to task relevant cues. Next time you are tempted to instruct a player to "concentrate", think again, and say, "concentrate on...". By doing this you will provide specific guidance and strategies, which the player can apply to play at her best.

# Drilling Psychology on Court!

By Miguel Crespo (ITF), Ann Quinn (Australia) and Machar Reid (ITF)

### Introduction

Inadvertently whether coaches recognize it or not, players will be required to access their psychological skills as part of the technical, tactical and physical work they perform. It follows that while most coaches have little trouble prescribing specific technical, tactical or physical drills, it is rare to see coaches utilising on-court drills, specifically designed to improve the psychological skills of their players. As a result the purpose of this article is to provide several examples of on-court drills that can do just that.

### Motivation (through goal-setting)

Players play points and before starting each point must tell their coach their strategy for the point. One point is awarded for winning the point and another if the point was played according to plan.

### Concentration

In half a court, two players rally with two balls at the same time. The two balls are introduced with underarm feeds. These players compete against two other

players performing the same drill to see how many consecutive balls can be hit without an error being committed.

### 100% effort

Players A and B play a singles match in which the receiver plays in the doubles court and the server in the singles court.

### Momentum

Players play points with or without the serve. The winner of the point is rewarded with a score that equates to the number of balls he hit during that point (i.e. 3). If he wins the next point he adds the number of balls he hit (i.e. 4) to his score from the previous point (i.e.  $3 + 4 = 7$ ). However, if he loses the point his score returns to 0 and his opponent's score becomes the number of shots his opponent hit during the point. Players play first to 10 or 15.

### Visualisation

Players play a set and a "changeover" is introduced after each game. During this time players are to visualise that which they endeavour to do in the next game.

### Self-confidence

Players inform their coach of their best shot (i.e. inside-out forehand) or tactical play (i.e. serve and volley). They play points and are rewarded double points for every time they are able to use this shot or tactic to win the point.

### Playing under pressure

Players play a five set match with one of the players starting from 4-1 down in each set: it can be the same player throughout the entire match or roles can be reversed from set to set.

### Emotional control

Players play a set during which each player is able to choose to "take" a total of four free points at anytime.

### Rituals

Prior to playing a set players tell their coach the type of between point and between game rituals they are going to employ. The coach observes and takes note of any instances where these rituals are not employed and the player is penalized point/s during the following game accordingly.

### Self-evaluation

Players play points and the coach specifies one of the above psychological skills, whose implementation players are to self-evaluate. Each player has ten paper clips in his right pocket and each time he believes that he has successfully engaged the specified skill, he moves one clip to his left pocket. After "x" time or "x" number of games, the coach and players get together to discuss what has transpired.

### Conclusion

Although the abovementioned drills do not represent an exhaustive list, we hope that we have provided coaches with some insight as to how on-court psychological drills can be designed such that they can be more regularly and specifically incorporated into tennis practices.

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*Speaking to players is an important component of on court psychological drills*

# *Burnout among Tennis Coaches:* *What is it, what causes it, and what can we do about it?*

*Joan L. Duda, The University of Birmingham, UK  
Isabel Balaguer, The University of Valencia, Spain  
Miguel Crespo, The International Tennis Federation*

*The preparation for and writing of this article was supported by a grant from the International Tennis Federation.*

Coaching tennis can constitute a rewarding and pleasurable voluntary contribution to the sport, a part-time job, or a life-time career. In any of these cases, promoting the skills, strategies and techniques of players and having a role in their development as persons can be positively challenging and personally gratifying. Being a tennis coach however, especially as we start to move up the competitive ladder to the elite level, can also mean living with pressure and strain. Think about how you are feeling about your experiences as a tennis coach in recent months. Are the following queries capturing what is in your heart and mind when you think about the sport and working with your athletes?

As a tennis coach, do you repeatedly have a sense of being overwhelmed and feel like you are not enjoying your coaching activities? Do you often find yourself feeling down and think that you are not accomplishing what you would like to in your coaching? Do you frequently feel tired and as if you do not have enough energy to meet the demands of your coaching? Does it seem like you are becoming more detached from your athletes? Are you finding yourself, on a more regular basis, thinking about quitting coaching? If you are nodding in agreement to such questions, you may be suffering from *burnout*.

## **Burnout: What is it?**

In contemporary sport psychology, burnout is reflected in exhaustive psychophysiological responses exhibited as a result of frequent, sometimes extreme, and generally ineffective efforts to meet excessive demands" (Weinberg and Gould, 1999, p. 455). When we are burned out, we want to withdraw. We can manifest such withdrawal psychologically (e.g., feeling low in confidence and personal control over the situation), emotionally (e.g., feeling continuously "up tight" or perhaps not caring any more), and/or physically (e.g., feeling "flat" or tired). Clearly, it would not be possible for a coach to adequately and enthusiastically do her

duties and perform optimally when afflicted with such symptoms. Further, when intense and recurring, the characteristics of burnout could have important implications for the physical and mental health of coaches. Indeed, research has revealed burnout sufferers to be subjected to unplanned weight gain or loss, depression, heightened susceptibility to injury, poor sleeping patterns and/or suppressed immune systems. Finally, the mental, affective, and physiological expressions of burnout can and often do set the stage for behavioural withdrawal. That is, burnout can be a key reason why coaches drop out.

## **Burnout: What causes it?**

It is generally assumed that burnout is the result of chronic, high levels of stress and dissatisfaction stemming from environmental stressors, such as the pressure to win, travel commitments, disagreements with management or parents, and/or trying to juggle multiple roles (Weinberg and Gould, 1999). However, heightened or conflicting demands that face coaches in the world of competitive tennis do not automatically translate into burnout. Burnout is the result of an "out of sync" and maladaptive interaction between the person and the situation. Specifically, it seems that the underpinnings to burnout are: (a) how individuals perceive those demands, (b) how they see their resources to meet the challenges, and (c) how they view the consequences of not meeting what they feel is expected of them. When coaches feel that they don't have or have no control over what it takes to match demands they deem very important and personally meaningful, coaches are at risk of burning out (Smith, 1986). If the coaches in question also do not possess effective coping skills to handle the stress resulting from such appraisals, burnout is likely to be evident.

In terms of past research on the degree and correlates of burnout in the coaching profession, Kelly, Eklund, and Ritter-Taylor (1999) studied male (n =

163) and female (n = 98) collegiate head tennis coaches (aged 25-77 yrs) from the United States. They found that the tennis coaches, on average, were suffering from levels of burnout similar to those of other helping professionals (e.g., nurses, athletic trainers). The researchers also reported that there were personality factors that directly predicted burnout in this sample. Consistent with the precursors to burnout described above however, Kelly and associates found it was the coaches' appraisals of situational stressors, rather than the environmental demands per se, that were central to the incidence of burnout.

We and a colleague (Balaguer, Duda, and Crespo, 2003) recently examined the degree and predictors of burnout among a large sample of junior-level international tennis coaches (354 male and 34 female). These coaches came from a variety of countries including Spain, the United States, Argentina, Chili, France, etc. As a group, they had been coaching tennis for an average of approximately 12 years. Overall, the coaches reported they experienced low to moderate levels of burnout. The mean values indicated that they experienced burnout one or twice at month. Burnout was negatively correlated with confidence in one's ability to coach and positively associated with the level of somatic (body-related; e.g., pounding heart) and cognitive stress (e.g., worries about performance), and problems with concentration exhibited by the coaches. Parallel to our study of the antecedents to burnout among junior international players (Duda, Balaguer, Moreno, and Crespo, 2001), coaches who tended to define personal success in coaching as winning and outdoing others were more likely to feel burned out.

## **Burnout: What can we do about it?**

The information presented above regarding the causes and consequences of burnout does not paint a pretty picture. Obviously, there are no benefits to being burned out. This is an experience we want tennis coaches to avoid. Drawing from the literature and

applied work on the topic, the following are some suggestions for keeping burnout out of your coaching life:

- (1) Remember to keep it fun! We know this is important for athletes of all ages and at all levels, but this principle certainly applies to coaches too. Don't ever forget your sense of humour! Remember why you got involved in tennis in the first place and try to rekindle that intrinsic fire.
- (2) Take a hard and pragmatic look at what you need to do and what you would like to achieve in coaching. Which of these things come within your personal control? Which are outside your power? Focus on the former and put the latter in perspective.
- (3) Coaches often engage in goal-setting with their players. To keep those coaching demands from seemingly moving beyond your reach, don't forget the goal-setting for yourself. The goals you want to set should be realistically achievable with hard work (again, something that you can control!). They should be less tied to win-loss records and based more on your own coaching performance in areas such as strategising, the

effective teaching of skills or techniques, optimising training, positive thinking and emotional control, creating a motivating environment for players, etc. If you keep your mind on your development as a coach with respect to such aspects, you probably will end up more objectively successful as well.

- (4) Become familiar with and then regularly practice some stress management skills (e.g., negative thought stopping, slow and controlled breathing from the diaphragm, progressive muscle relaxation) that you can use before, during, and following important matches. Competent coping when the "going gets rough" is a skill!
- (5) Social support plays an important role in buffering the brunt of difficult situations (Kelly, 1994). Seek out those who sustain, encourage, and bring out the best in you and make sure you are not surrounding yourself with people who make you feel weak, insecure and/or anxious. Share your feelings and experiences with other coaches that you trust.
- (6) Remember down time and keep your priorities. Tennis is an

absolutely super sport, no doubt. But tennis, sport, are only one piece of your life and one facet of who you are as a person. Keep the balance and burnout will be obliterated!

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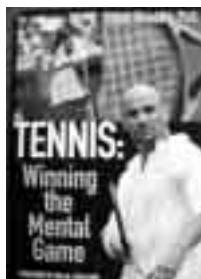


Remember to keep tennis fun to avoid burn out

# Recommended Books

## **Tennis Winning the Mental Game.**

By Robert Weinberg, Ph.D.  
Year: 2002. Pages: 184. Language: English. Level: Advanced.  
Foreword by Billie Jean King. This



book provides practical advice and exercises, which will help players to maintain commitment, improve self-talk, use imagery, build confidence, mentally prepare for a match, effectively cope with pressure, maintain attentional focus and cope with gamesmanship. Contents include: Importance of the mental side of tennis, mental states of successful players, assessing and improving commitment, motivation through effective goal-setting, confidence, understanding and managing emotions, imagery, concentration, self-talk, mental preparation, psychology of match play, and parents and young tennis players. It also includes many quotes from players and sport psychologists, examples of routines, plans, exercises and drills, tables, inventories and guidelines presented in a user-friendly format. For more information contact: H. Zimman, Inc., Oxford, Ohio. Fitness Information Technology, Inc. books.

## **The Sports Psychologist.**

By Joaquin Dosil (Ed).  
Year: 2002. Pages: 494. Language: Spanish. Level: All levels. This book



includes several chapters that describe the work of sport psychologists in different sports. The chapter dedicated to tennis is written by Professor Isabel Balaguer, from the University of Valencia, Spain. In this chapter the author covers aspects such as: the characteristics of tennis and the psychological skills needed for high performance, big points in tennis and their psychological importance,

psychological training in tennis and the role of motivation in player development. For more information contact: [www.sintesis.com](http://www.sintesis.com).

## **The Psychological Education of the Young Tennis Player.**

By The Technical Department of the French Tennis Federation. Year: 2002. Language: French. Level: All levels. This book is geared towards tennis coaches working with young players who are interested in developing the psychological skills needed for competitive tennis play. It includes practical information on how to help players cope with the challenge of competition and performance in tennis. For more information contact: [www.fft.fr](http://www.fft.fr).



## **Manual of Mental Training for Sport.**

By Benno Becker Jnr and Dietmar Samulski. 2nd edition. Year: 2002. Language: Portuguese. Level: Advanced. This is a



book for sport psychologists, coaches and players which includes very practical information on the intricacies of mental training. The contents include: principles and types of mental training, differences in mental training among sports, mental training programmes, application of a mental training programme, somatic techniques (relaxation, breathing and activation techniques) and cognitive techniques (self-talk, imagery, concentration techniques and other). In total, the book details 22 specific techniques of mental training for athletes. For more information contact: [www.feevale.br](http://www.feevale.br).

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# *13th ITF WORLDWIDE COACHES WORKSHOP.*

## *20th - 26th OCTOBER 2003, VILAMOURA, PORTUGAL.*

### *PRELIMINARY PROGRAMME*

*“Applied Sport Science for High Performance Tennis”*

Monday 20/10/03 Participants arrive. Registration and dinner at the Hotel.

DAY 1 Tuesday 21/10/03	DAY 2 Wednesday 22/10/03	DAY 3 Thursday 23/10/03	DAY 4 Friday 24/10/03	DAY 5 Saturday 25/10/03
08.30 – 09.00 <b>Workshop Opening (LR)</b>	08.30 - 09.30 Demands on endurance and speed in elite tennis with recommendations for tennis practice (LR) <b>Karl Weber (GER)</b>	08.30 – 09.30 Psychological preparation for junior players (LR) <b>Ann Quinn (AUS)</b>	08.30 – 09.00 ITF initiatives in equipment research and testing. (LR) <b>Stuart Miller (ITF)</b> 09.00-09.30 Influence of strings and balls on different game styles (LR) <b>Torsten Salm (GER)</b>	08.30-09.30 <b>FFT video: “The basket of balls”. (LR)</b> <b>Bernard Pestre (FRA)</b>
09.00 – 09.45 <b>ITF and Development (LR)</b> <b>Dave Miley &amp; Frank Couraud (ITF)</b> 09.45 –10.00 <b>The Role of Sport Science in Tennis Coaching (LR)</b> <b>Dave Miley &amp; M. Crespo (ITF)</b>	09.45-10.45 Coordination training for tennis players (OC) <b>Olivier Bourquin (SUI)</b>	09.45 – 10.45 From junior to professionals (OC) <b>Emilio Sánchez Vicario (ESP)</b>	09.45-10.45 How to work with top professional players (OC) <b>Niki Pilic (CRO)</b>	09.45-10.45 Applied tennis medicine on court (LR-OC) <b>Babette Pluim and Frank van Fraayenhoven (NED)</b>
10.00 – 10.30 Coffee-break	10.45 – 11.15 Coffee-break	10.45-11.15 Coffee-break	10.45 – 11.15 Coffee-break	10.45-11.15 Coffee-break
10.30 – 11.30 Player analysis and improvement using Biomechanics (LR) <b>Bruce Elliott (AUS)</b>	11.15 – 12.15 Movement training for top professional players (OC) <b>Machar Reid (ITF)</b>	11.15-12.15 Everyday mental toughness (OC) <b>Paul Lubbers (USA)</b>	11.15-12.15 From theory to practice - Applying theory to specific player development through on-court concepts (OC) <b>Craig Tiley (RSA)</b>	11.15 – 12.15 On court training for women's tennis (OC) <b>Ivo van Aken (BEL)</b>
11.45 – 12.45 Tennis: Biodynamic system (OC) <b>Daria Kopsic (ARG)</b>	12.30-13.30 Workouts with top level players (OC) <b>Gabriel Jaramillo (USA)</b>	12.30-13.15 Players' medical care at the professional level (LR) <b>Cathy Ortega (WTA)</b> 13.15-13.45 Questions (LR) <b>All speakers of the day</b>	12.30-13.30 Applied Tennis Psychology (OC) <b>Paul Dent (GBR)</b>	12.30-13.30 Davis Cup Training (OC) <b>Javier Duarte (ESP)</b>
12.45-15.00 Lunch, free time and films. ITN Testing(OC).	13.30-15.30 Lunch, free time and films. ITN Testing (OC)	13.45-15.30 Lunch, free time and films <b>Wheelchair Tennis Demonstration</b>	13.30-15.30 <b>Lunch. Display of Coaches' Education Material (LR)</b> <b>National Associations</b>	13.30-15.30 Lunch, free time and films. ITN Testing (OC).
15.00 – 16.00 Player analysis and improvement using Biomechanics (OC) <b>Bruce Elliott (AUS)</b>	15.30-17.00 Free Communications - I (Applied / Scientific sessions)	Free afternoon and evening	15.30-17.00 Free Communications- II (Applied / Scientific sessions)	15.30-16.30 Doubles training: Tactical patterns for the receiving team (OC) <b>Louis Cayer (CAN)</b>
16.15-17.15 Timing: new findings and conclusions for tennis (LR) <b>Richard Schonborn (GER)</b>	17.00 – 17.30 Coffee-break		17.00 – 17.30 Coffee-break	16.30 – 17.00 Coffee-break
17.15 – 17.45 Coffee-break	17.30-18.30 Talent identification in tennis (LR) <b>Paul Roetert (USA)</b>		17.30-18.00 Strength training with young tennis players (LR) <b>Vitor Cabral (POR)</b> 18.00-18.30 Questions (LR) <b>All speakers of the day</b>	17.00-18.00 Top coaching tactics (OC) <b>Bob Brett (AUS)</b>
17.45 – 18.30 Questions (LR) All speakers of the day	18.30 – 19.00 Questions (LR) <b>All speakers of the day</b>			18.00 Workshop wrap up and closing (LR-OC) <b>Dave Miley (ITF)</b>
20.30 Opening Dinner at the Casino	Free evening		20.30 Dinner at the Marina	20.30 Closing Dinner in the Forum

Sunday 26/10/03 Participants depart

Venue: **Dom Pedro Golf & Forum Conference Centre, R. Atlantico, Vilamoura. 8125-478 Quarteira, Algarve, Portugal**

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## ITF STRENGTH AND CONDITIONING FOR TENNIS

Edited by Machar Reid, Ann Quinn and Miguel Crespo

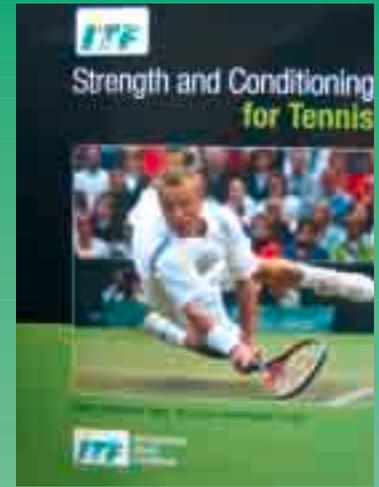
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ISBN 1-903013-19-4

Pages: 272

Language: English.

ITF STRENGTH AND CONDITIONING FOR TENNIS provides a detailed analysis of strength and conditioning specific to the tennis player. Complete with theoretical information and practical training exercises from some of the tennis world's leading physical training experts, this ITF publication reflects the ITF's ongoing role in making available the most up-to-date tennis-specific training information to players and coaches.



The contributors to and chapters of ITF STRENGTH AND CONDITIONING FOR TENNIS are: **SCREENING AND TESTING** by Ann Quinn (Australia) and Machar Reid (ITF), **LONG TERM ATHLETE DEVELOPMENT, TRAINABILITY AND PHYSICAL PREPARATION OF TENNIS PLAYERS** by Istvan Balyi and Anne Hamilton (Canada), **TRAINING PRINCIPLES** by T. Jeff Chandler and Britt Chandler (USA), **COORDINATION** by Olivier Bourquin (Switzerland), **FLEXIBILITY** by Juan Reque (Spain), **ANAEROBIC AND AEROBIC ENDURANCE** by Alex Ferrauti, Karl Weber and Peter Wright (Germany), **DEVELOPING STRENGTH** by Mark Verstegen (USA), **INCREASING POWER IN TENNIS** by Donald Chu (USA), **SPEED AND AGILITY** by Xavier Moreau, Nicolas Perrotte and Paul Quetin (France), **MOVEMENT MECHANICS** by Todd Ellenbecker, Paul Roetert and Donald Chu (USA), **INJURY PREVENTION AND MUSCLE CONTROL** by Ryan Kendrick (Australia), **WORKING WITH SPECIAL POPULATIONS - CHILDREN - PHYSICAL ACTIVITY AND PERFORMANCE** by Richard González (Uruguay) and Ceferino Ochoa (Colombia), **STRENGTH AND CONDITIONING IN THE FEMALE PLAYER** by Machar Reid (ITF) and Miguel Maeso (Spain), **PHYSICAL TRAINING WITH VETERAN TENNIS PLAYERS** by Miguel Crespo (ITF) and David Sanz (Spain), **CONSIDERATIONS IN THE PHYSICAL TRAINING OF WHEELCHAIR TENNIS PLAYERS** by Mark Bullock (ITF) and Babette Pluim (Netherlands), **WORKING WITH SPECIAL POPULATIONS – PRO PLAYERS: PHYSICAL TRAINING DURING TOURNAMENT PLAY** by Ivo van Aken (Belgium), **PLANNING PHYSICAL CONDITIONING WITH PROFESSIONAL PLAYERS** by Carl Maes (Belgium), **RECOVERY** by Angie Calder (Australia), **TRAINING ALTERNATIVES** by Machar Reid (ITF), Ann Quinn (Australia) and Miguel Crespo (ITF).

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Co-Editor: Machar Reid Selected photo credits: Paul Zimmer

Printed by Remous Ltd, Milborne Port, Sherborne, Dorset DT9 5EP