

EDITORIAL

Welcome to issue 16 of ITF Coaches Review. As you can see, we have changed the format to our front page by including a table of contents for this issue.

Some of our readers will have attended the recent successful Regional Coaches Workshops held by the ITF. In Guatemala, over 120 coaches from Central America participated, in Cyprus 80 high level European coaches representing 30 countries attended the European Coaches Symposium. In Bangkok more than 130 coaches from 31 nations took part in the Asian Workshop while in South America close to 300 coaches were in attendance at the South American Workshop.

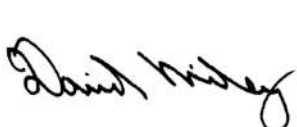
Many of our readers will at some stage have attended an ITF Coaches Workshop. Each year over 80 ITF courses are held in different parts of the world. These courses involve a suitable coaching expert visiting a country and working with coaches for a period of 7-14 days. The courses help to ensure that coaches from all over the world have regular opportunities to catch up on the most up to date coaching information. We would like to take this opportunity to express our thanks to the scores of coaching experts who have assisted the ITF with this educational programme over the years.

The highlight of the ITF's educational programme is the ITF Worldwide Coaches' Workshop held every 2 years. The 11th ITF Worldwide Coaches' Workshop is due to be held in October/November 1999. The venue for this event will be announced in our next issue.

We hope that the articles in Coaches Review continue to generate a lot of discussion among coaches around the world. If some of our readers are interested in commenting on any of the articles published in Coaches Review we would be happy to receive your letters and if we feel your comments are of interest, we may publish some letters in future issues. For your information, we have also enclosed the Tennis publication brochure by Human Kinetics, a world leading company in sports material resources.

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

We do hope you enjoy our 16th issue of Coaches Review.



Dave Miley
Executive Director, Development



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ITF INTERNATIONAL JUNIOR TEAMS

Coaches currently working with top ranked Junior players should be aware that players from any nation ranked in the top 35 on the Junior World rankings is eligible to apply for the ITF International Team.

This team for which airline tickets, coaches and accommodation is provided by the ITF will play 8 weeks of high level events in May and June, including Roland Garros and Wimbledon.

Applications close 8th March 1999.

FIT TIPS

by Paul Roetert (United States of America)

This article appeared in *Tennis Match Magazine* (January/February 1997)

WORKING OVERTIME ON TENNIS ELBOW

Overworked forearm muscles during preparation, acceleration and follow-through on the backhand may be at the root cause of tennis elbow. Researchers at Oregon State University found that the forearm muscles of players with tennis elbow were more active than muscles in players who had no pain. It did not matter whether a one-handed or two-handed backhand was used. The forearm extensor muscles (the muscles on the top of the forearm) were most active during the backswing phase of the stroke. Forearm flexors (the muscles on the underside of the forearm) were most active during the acceleration and follow through portions of the stroke. Learning the proper technique when hitting a backhand can reduce much of the stress on the forearm muscles and go a long way toward preventing and alleviating tennis elbow.

TUBING ON THE ROAD

An excellent way to stay fighting trim while on the road or away from the gym is to use rubber tubing as a substitute for weight training resistance exercises. And one area in which they are especially effective is the shoulder. Research from the Steadman Hawkins Clinic in Vail, Colorado, found that activity was very high in the rotator cuff muscles during internal and external rotation movements and in the muscles surrounding the shoulder during shrugs and seated rowing movements. Using rubber tubing is therefore an effective means for strengthening the shoulder musculature, especially when you don't have access to a fully equipped gym.

WHICH SHOULDER IS STRONGER?

If you play tennis right handed, wouldn't you think that your right shoulder is stronger than your left? Guess again. Elite junior tennis players were tested on both sides by having them assume a one-arm push-up type position over a computerised platform. The players tried to stay balanced, stable and as still as possible for 20 seconds, while a Cybex Fastex machine recorded movement. The results? Upper extremity strength and/or stability were symmetrical or in many cases – weaker in the dominant arm. Chronic injury to the playing shoulder is the suspected culprit. Players can use the one-arm push-up position to help strengthen the muscles surrounding the shoulder blade. Additional exercises to strengthen these important tennis muscles include wall push-ups, standard push-ups and medicine ball tosses.

BREATHING EASY?

Holy Jensonization? Three independent researchers reported no performance benefits using the popular adhesive nasal strips. This does not mean, however, that the strips do not make the user feel better or more comfortable. Regardless, they do look awfully sharp!

STRETCH THAT SHOULDER

The intense activity involved in overhead movements, such as in tennis serves and overheads, can lead to deficits of the internal rotation of the shoulder. Thirty-nine members of the USTA's national junior team and touring professional programme were tested and found to have some compromise

in the range of motion of the shoulder, most commonly in regard to internal shoulder rotation. Although there is no cause-and-effect relationship between an internal shoulder rotation deficit and any specific shoulder injury, decreased flexibility can make an athlete more susceptible to injury. The good news is that proper stretching exercises performed on a regular basis can increase internal rotation.

OVEREATING? TRY SLEEPING

A lack of sleep on a regular basis can produce significant changes to a player's appetite. According to Dr. Ronald Bliwise, director for the Sleep Disorders Centre at Emory University, studies showed that limiting sleep in college students – two and a half-hours for three nights in a row and interrupted sleep on three other nights - resulted in an increased appetite. Limiting dream or REM sleep also resulted in an increased appetite and weight gain. So, if you're dreaming about losing weight, you may be on the right track!

GETTING A STEP AHEAD

Top players anticipate their opponents' moves by scanning them from head to toe for clues about their next shot. Dr. Bob Singer of the University of Florida found that elite athletes use the movements before an opponent hits the ball to develop a probability about how they might respond. Cues include the angle of an opponent's racquet, how it is held, the tilt of his shoulders, the position of the arms, hips or legs and how and when the ball is hit. By watching the eye movements of players in a laboratory, Dr. Singer determined that great players anticipate much better what an opponent might do and thereby react more quickly. Best of all, players can be trained to improve their anticipation skills.

DRINK UP!

Not drinking enough fluids during competition can prevent you from playing your best tennis. To remain properly hydrated, studies show that a player should drink two or three cups of liquid 15-20 minutes before a match and a cup every 15 minutes while competing. Although water remains the undisputed champion of replacement fluids, carbohydrate drinks are increasingly popular. Be aware, however, that drinks with over 10% sugar delay gastric emptying, which ultimately may hurt performance. Dehydration can cause a loss of vigour, stamina, strength – and on a scorching summer day can cause serious heat injury. So drink up to play your best.



PUMPING UP

Weight training can make you a better player. Dr. William Kraemer of Penn State found that women collegiate tennis players, after following a nine-month resistance training programme, increased average serve speed from 60 to 70 mph; increased stroke speed 35% on the backhand and 19% on the forehand; reduced body fat from 24% to 19%; increased grip strength on both hands; and significantly increased short bursts of power such as jumping and running down a ball. The full-body work-outs consisted of 30-60 minute sessions, 2 to 3 times a week for 9 months and included exercises such as bench presses, seated shoulder presses, upright rows, seated rows, front and side dumbbell raises, lateral pulldowns, biceps curls, wrist curls, bent leg sit-ups, crunches, split squats, leg presses, calf raises and back hyperextensions.

EAT THOSE CARBOS

Following a diet rich in complex carbohydrates is the key to

peak performance for tennis players. Carbohydrates fuel the high-energy bursts required during a tennis match. It is therefore recommended that a player's diet should consist of 60-70% carbohydrate, 10-15% protein and 20-25% fat. And during the competitive season, tennis players should eat small amounts of carbohydrates regularly throughout the day. That ensures that their muscles store the maximum amount of fuel to maximise performance.

LOWER TENSIONS, HIGHER ACCURACY?

Is a racquet strung at high tension more accurate than one strung at low tension? Most tennis players believe this to be true, but a study by Dr. Duane Knudson from Baylor University found that lower string tensions tend to improve rebound accuracy in flat shots using oversized racquets. The study also found that oversized racquets created more accurate rebounds than midsize racquets with similar tension and impact conditions.

KB FED CUP PLAYERS REVEAL FACTORS OF SUCCESS

By the International Tennis Federation

The ITF has published a report which investigates the key factors in the preparation and performance of the world's top female tennis players.

This document is based on information gathered at the 1997 Fed Cup first round ties held in March and features the opinions of nearly 50 leading players including Martina Hingis, Mary Joe Fernandez, Gigi Fernandez, Amanda Coetzer and Monica Seles.

Divided into five main areas, the Fed Cup Lifestyle Report covers diet, mental toughness, fitness, leisure and teamwork and incorporates comments from various experts commissioned by the ITF.

The report reveals that players organise their fitness routines with the primary aim of achieving speed on court. Flexibility and stamina are the next most desired objectives, but very few consider strength to be of paramount importance (chart 1).

A healthy diet is also vital for top athletes but despite the awareness of this, none of the top players consult a nutritionist or a personal chef.

Mary Joe Fernandez explains, "I don't discuss my diet with either my coach or fellow players. I believe I know what I need to eat and drink to maintain a healthy body. My one tip would be to drink lots of fluids". However, the survey reveals that in recent years players have grown more aware of food nutrition with fewer than one in ten players now eating red meat, while more than 70% include more vegetables and fruit in their diet.

Gill Hogan, a Sports Dietician at the Sports Nutrition Foundation in the U.K., says, "Demands on professional tennis players,

especially over the last ten years have increased tenfold. The change in diet is one way in which this has been reflected. Whereas years ago players would eat lots of red meats, today the picture couldn't be more different. Now, it's the carb-focused foods which are the 'in-foods' to eat. Not just fad, players have now learnt the benefits of eating foods like these – they fill you up without weighing you down and provide the right energy sources needed for tough competition on the courts."

While overall fitness and energy-releasing foods are important, top players agree that mental strength is equally vital for winning matches. Dr. David Lewis, a fellow of the Institute of Directors and the International Stress Management Association, says, "It's been said that all sports are won or lost on a five inch playing field – the space between the competitor's ears!"

Although three-quarters of Fed Cup players do not follow a specific mental programme, many use visualisation, deep breathing exercises and meditation or yoga (chart 2).

CHART 1
The results of the survey showed that each player has her own priorities for fitness. However, overall:
•48% of the players questioned said speed was their top priority
•23% rated flexibility to be important in their game
•19% thought stamina was crucial
•6% considered strength as significant

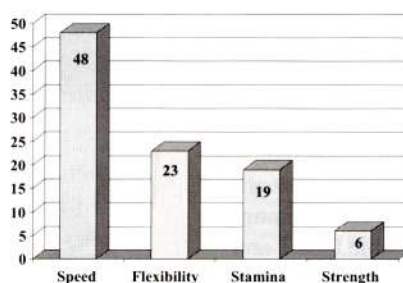
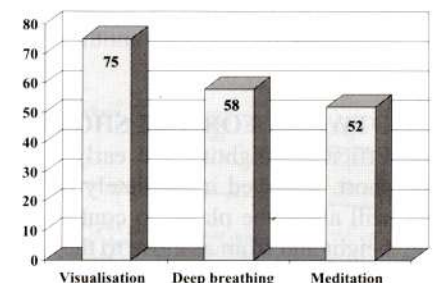


CHART 2
Although 74% of Fed Cup players do not have a specific mental strengthening programme, those who do employ the following strategies:
•visualisation 75%
•deep breathing techniques 58%
•meditation and yoga 52%



Manon Bollegraf, who has played Fed Cup for the Netherlands since 1988, sums up, "I believe good tennis comes from fitness and skill and great tennis comes from the mind. To help my game, I often go to seminars on how to improve my mental strength."

"To have the correct mental balance on-court a player has got to have the right mental balance off-court," adds Dr. Lewis. He sees relaxation as the key to maintaining the optimum psychological balance. But with tournament schedules and constant travelling, leisure time is a precious commodity for the top tennis players. Most relax by listening

to music or by going to the cinema.

The report also questioned players about their attitude towards teamwork and representing one's country – two cornerstones of Fed Cup competition. In an essentially individualistic sport, Fed Cup offers players a rare chance to experience the fun of being part of a national team.

Deborah Jevans, ITF Executive Director of the Fed Cup, welcomes the input from the top players, commenting, "It is only with feedback from those within the game that we can continue to educate our younger players on the importance of diet, health and fitness."

THE SHORT BALL

by Peter Farrell (Ireland)

INTRODUCTION

A short ball in tennis is like a penalty in soccer or a free throw in basketball - an excellent opportunity to score. Players must be trained to react effectively and efficiently when the short ball arrives.

Good strategy in a baseline rally situation means keeping the ball in play, deep, until your opponent misses or hits short. If he misses you have won the rally. If he hits short you should move forward to play either: an approach shot, a winner, or a drop shot.

As the player moves forward to receive a short ball, a quick decision must be made as to which shot to select. This decision should be based on the following factors:

1. How high the ball will be when the player makes contact with it. Chest to shoulder height is ideal, since it allows winners to be hit with pace.
2. How near the net player will be when the player contacts the ball. The nearer the better, this allows sharper angles and gives the opponent less time to react.
3. The position of the opponent. Behind the baseline encourages the drop shot. Inside the baseline usually rules out the drop shot, but a deep approach shot should be effective.
4. The players best shot in this situation. For example: if she doesn't like to drop shot or go for winners off the backhand, but has an excellent slice approach, it will be natural to select this shot more often.
5. The players best shot in this situation in this match. For example: when she goes for power today she is not putting the ball away, but every drop shot is a winner.
6. The opponents strengths and weaknesses. For example: she is very fast, gets to most drop shots and attempted winners but has problems passing off a low approach.
7. The opponents' expectations. Having used the drop shot a number of times, it might be necessary to counter-anticipate by selecting another option.

FOOTWORK FOR THE SHORT BALL

- Efficient weighting and early perception that the ball is short, followed immediately by fast movement forward will allow the player to contact the ball at the optimum height and from as close to the net as possible (see 1 and 3 above).

- Whichever of the three options the player chooses, she will be moving forward to a threatening net position. Be sure to include this "through and after the shot" forward movement in all drills (i.e. - not move in and go for a winner, then stop and walk back to the baseline for another attempt).
- To play an effective slice backhand approach players will need to master the carioca step (left foot coming behind and past the right foot during the shot for a right hander). This allows movement through the shot while staying sideways.
- Many players will want to run around a short ball on the backhand to play the big forehand - teach and practice this movement.

KEEP IN MIND THAT:

- Players who take up a position well behind the baseline during the rally phase will never be as effective in dealing with short balls as those who rally from near the baseline, simply because the ball will be lower and further from the net when they make contact.
- By definition, every serve in play is a short ball. We should practice all the above skills in the return of serve situation for use against weak serves.



THE IMPORTANCE OF COMPETITION PLANNING

by Dave Miley (ITF)

For coaches working with high performance junior players, the ability to plan an effective tournament programme is so important for the players' development. There are a number of important factors to take into consideration when planning an optimal schedule:

- the age of the player
- the type of tournament they should focus on
- their education
- the number of weeks per year they should play tournaments
- the number of singles and doubles matches they should play
- what their current ranking goal is
- and the cost and the ability to pay for the schedule compiled.

Please refer to these factors in the tournament planner which has been put together to help coaches and players in organising their annual competition schedule.

When using this tournament planner, you should bear in mind the following points:

1. THE AGE OF THE PLAYER

You need to be aware of the age eligibility rules which limit the number of weeks of professional tennis a player under 16 years old can play. Players under the age of 12 are also restricted to a total of 4 weeks of events outside of their country and cannot play in 18 & Under Junior ITF Events.

2. THE TYPE OF TOURNAMENT TO PLAY

The questions many players, coaches and parents face include:

- should the player play junior or senior events?
- should they play within their age group or play up an age group?
- should they start to play professional events or concentrate on junior events?
- should they play tournaments in their own country or play in international events?
- on which type of surface should they play tournaments on - clay, hard, indoor etc?

In my opinion the player needs to play a mix of events including national, junior and some professional events and all of these on a variety of surfaces. However, the number of weeks spent playing specific types of tournaments will depend on the main focus of the player (ie. what ranking goal the player is trying to achieve). Is it to be no. 1 in the national junior rankings? Is it to break into the top 30 in the regional rankings? Is it to make it into the top 100 junior ITF rankings or are they focusing on making a breakthrough into the professional ranks?

For example, if the player is trying to focus on breaking into the top 100 junior ITF rankings, they will need to play somewhere between 5 and 10 ITF Junior World Ranking events to bring their ranking up to that level -

beginning first of all with Group 5 and 4 level events and gradually moving on to play higher group events.

3. THE NUMBER OF WEEKS OF TOURNAMENTS PER YEAR

In compiling a schedule, it is important to look not only at the total number of weeks of competition, but also the number of weeks playing in each type of event. There are many factors to consider in determining the number of weeks of tournaments per year. First and most important is the education of the player. Many parents are rightly concerned that the player shouldn't have to give up their education in order to play tennis. I would agree that there is definitely no need for young players to compromise their education in order to play tennis at a high level. It is simply necessary to plan the schedule so that the player can get sufficient competitive experience whilst continuing their education.

For example, most young people get approximately 18 weeks per year of holidays. Within these 18 weeks, a young player aged between 13 and 17 can play sufficient tournaments outside their own country to gain the necessary experience and to achieve a good international ranking. Parents, players and coaches should also work to build up a good relationship

AGE	TYPE OF TOURNAMENTS	NUMBER OF WEEKS PER YEAR	MATCHES PER YEAR	APPROX. RANKING GOAL	APPROX. COST/YEAR
12-15	<ul style="list-style-type: none"> • National junior • International junior (World Junior Tennis Ch.) • National senior • Team/club • Women's Circuit Events (\$10,000) 	5-10 2-5 4-8 3-6 1-2 TOTAL: 15-31	60/70 singles 25/45 doubles	National Age group: 1 ITF Junior: (girls top 100) Regional Junior Ranking: top 30 ATP: none WTA: 1,000-800	US\$ 7,000
15-17	<ul style="list-style-type: none"> • National junior • Int. junior (NEC World Youth Cup) • National senior • Team/club • ITF Men's or Women's Circuit Events (\$25,000-\$50,000) 	2-4 5-10 5-10 2-4 2-5 TOTAL: 16-33	70/80 singles 30/50 doubles	National Age group: 1 ITF Junior: top 50 ATP: 800 WTA: 800-200 Fed Cup Team	US\$ 12,000
17-18	<ul style="list-style-type: none"> • National junior • Int. junior (ITF Sunshine & Conolly Continental Cup) • National senior • Team/club • ITF Men's or Women's Circuit Events (\$25,000-\$50,000) • Challenger or WTA Events 	1-2 10 5-10 2 12 2 TOTAL: 32-38	80/90 singles 35/55 doubles	National Age group: 1 ITF Junior: Top 20 ATP: 300 approx WTA: 250-80 Davis Cup/Fed Cup Team	US\$ 15,000
19+	<ul style="list-style-type: none"> • Nat. prize money • Team/club • ITF Men's or Women's Circuit events (\$25,000 - \$75,000) • Challenger Events • WTA/ATP Tour • Gr.Slam/Davis/Fed Cup 	5 2 8 - 10 3 - 6 2 - 8 2 - 4 TOTAL: 22-35	80/90 singles	National: Top 2 ATP: Top 150 WTA: Top 100	US\$ 25,000 (prize money may offset this cost)
21+	<ul style="list-style-type: none"> • Challenger Events • WTA/ATP Tour • Grand Slam • Davis/Fed Cup 	10 13 4-8 4 TOTAL: 31-35	80/90 singles	National: 1-10 ATP: 100- 20 WTA: Top 50	Break even / making money

NOTE: No exhibition matches included.
 In determining which tournaments the player should play, the coach should ensure that a 2:1 win:loss ratio is maintained. Therefore if a player is playing ITF Men's / Women's Circuit events for a short period in order to win more matches.

with the players' school and teachers and ensure that when the player does have to travel during school time, they utilise all their spare time whilst at the tournaments (and there is lots of it) to work on their schoolwork.

Another important factor to consider when compiling a schedule, is that sufficient time be given for rest and regeneration. In one's own country it is easy to make time for rest. However it is not always easy whilst playing internationally. It is not recommended to play more than 5 weeks in a row outside of one's own country. However the realities of the cost of travel may make it sometimes impossible to return to your home country and may make it necessary to play more than 5 events in a row. For example, the ITF's International 18 & Under Team plays 8 weeks of high level tournaments in Europe each year. However, after 4 weeks of tough clay court tennis finishing at Roland Garros the girls team takes one week off for practice on grass, while the boys play a 3-day exhibition event at The Queens Club tournament. As the intensity of competition / training is not so high, this week acts as a break and ensures that when the players do start playing in tournaments again the next week, they are reasonably fresh.

4. THE NUMBER OF MATCHES PER YEAR

Whilst there have been a number of exceptions (e.g. the Williams), it is generally recognised that it is important to play a lot of matches between the age of 12 and 18 in order to gain sufficient experience to make a breakthrough into the high levels of the game. Between the age of 12 and 18, players should be playing between 60 and 100 singles matches per year (- refer to the tournament planner).

However, it is not just the number of matches, but also the quality of the matches that is important. For a match to even count as a match, the result should be in doubt when the players go on the court. Also, a good check on whether the schedule of tournaments being played is appropriate to the player is the player's win/loss ratio. Ideally, the win/loss ratio of the player at the end of each year should be approximately 2 wins to every 1 loss. This means that whilst a schedule can and should be put together in advance, it may often be necessary to adapt the schedule mid-stream in order for the player to play at a higher level or at a lower level for a while so as to improve the ratio. A good example of this occurred in 1994 when one of the top Asian male players and ITF Team member had achieved a ranking of 160 on the ATP rankings. The player in question began focusing on Challenger events and qualifying for Grand Prix events. However, after losing in the first round for 7 weeks, the player's win/loss ratio had dropped and in order to re-build confidence and to win some matches, the player went back and played one satellite circuit. Finishing second on the circuit, the player played close to 20 matches building up a very good win/loss ratio and was then ready and confident to go back to higher level events.

It is important for parents and coaches to realise that competition is not a bad thing. Competition is in my opinion a very good thing. Usually the major problem is the over reaction to poor results by parents and coaches. I often ask the question "Do more matches make more pressure or do less matches make more pressure?" My opinion, is that by playing less matches, you have more pressure. By playing a

lot of matches on a lot of different surfaces the matches themselves become routine and so the pressure reduces. For the player to reach a high level, they have to try to enjoy the challenge of playing matches and realise that some days they will win and some days they will lose. The important thing is that they try to give 100% in all of their matches, regardless of the situation. This is true mental toughness!

Regardless of the result, it is also important that they try to learn from their matches especially the more important ones. Our ITF team members are encouraged to complete the following "match performance worksheet" which helps the player to review their performance and to consider a simple but most important question - what they would do differently if they played the match again.

5. THE RANKING GOAL AND FOCUS OF THE PLAYER

A female junior player aged 15, could choose to play in the following category of events (obviously within the age eligibility rule):-

- National 16 and 18 and Under events and women's events
- Regional 16 and Under events (Europe, South America)
- ITF Junior 18 and Under events
- \$10,000 Women's Circuit events
- \$25,000 and \$75,000 qualifying events and even the qualifying of some Women's Tour events in their own country

The decision as to which event to play will depend on the player's focus which in turn will depend on their current ranking goal. What are they trying to achieve? In my opinion, the evolution of a top player should involve the player first focusing on being No. 1 or 2 Junior nationally. If they

MATCHPLAY PERFORMANCE WORKSHEET
(TO BE COMPLETED BY THE PLAYER)

Player name: _____

Date: _____

Conditions: _____

Tournament: _____

Surface: _____

Round: _____

Opponent: _____

Performance goals set prior to match		Rating of achievement (1-10)
1.	_____	/10
2.	_____	/10
3.	_____	/10

Performance tips set prior to match		Rating of achievement (1-10)
1.	_____	/10
2.	_____	/10
3.	_____	/10

Outcome of the match: _____

Opponents style of play: Net rusher Aggressive baseliner
Counter puncher Allcourt player

Personal rating of effort/fight: _____ /10

Personal rating of playing satisfaction: _____ /10

The 'positive' areas from the match _____

1. _____

2. _____

3. _____

The areas to be improved _____

1. _____

2. _____

3. _____

If you would play the match again what would you do differently?

cannot achieve that goal, why should they then focus on being 800 on the WTA rankings? The player should then follow a career path which involves gradually working through the various rankings goals listed in the chart above such as regional rankings, ITF Junior World Rankings etc in a step by step way. The player can and should still continue to play occasionally in other events for experience, but should keep the focus on the ranking goal until it is achieved.

Many players try to skip levels of tournaments. For example, they focus on professional tennis, prior to achieving success at the junior levels. Unless the player is extremely talented (an exception), I feel this is a rather dangerous strategy to adopt. However I understand many of the reasons why one might do this. Often it is easier mentally and even sometimes standard-wise to play at this level. A \$10,000 Women's Circuit Event can often be weaker than some junior events particularly the Junior Grand Slams. Players that play up and lose in the pro's, tell themselves they have lots of time to come through and therefore face less pressure. However when the player plays in a national 18 and Under event that they are expected to win, there is a lot of pressure. Many times, the players (and parents and coaches) make a mistake and avoid this type of tournament. Playing in this type of event often builds character. I would encourage all young players to try to play through the junior tournaments and to try and get good rankings in the ITF Junior Circuit. Figure 1 and 2 prove that the ITF Junior Circuit is a very good indicator of success at a later stage on the pro circuit. In addition the Junior Exempt programme currently in operation in the women's game, whereby the top ten ranked junior girls' receive wild-cards into professional events is a big incentive for female players to try to achieve high junior rankings.

6. THE COST OF EVENTS / COMPILING A SCHEDULE

There is no doubt that it is expensive to play tennis internationally and it may not always be possible to follow the ideal schedule. To facilitate the scheduling I would recommend to a player the following process in compiling a schedule. First (well in advance) put together an ideal schedule, ie. what would you do if you had sufficient money. Next try and work out how much money you can get from your Federation, your

Club, your own family and from sponsors. Then based on the money available, play as much of the ideal schedule as possible. In putting this schedule together bear in mind that ITF Junior events usually offer hospitality for the player and the travelling coach and therefore they will usually work out much cheaper to play than professional events, where no hospitality is given. It also might be interesting to look at the types of places where the ITF Junior events are held as often, although the airfare may be a little more expensive, the actual costs involved in playing in certain regions are much cheaper.

In my opinion, once a player reaches the age of 13/14 and they are technically sound, the technical training of the player becomes less and less important and what becomes more and more important is the organisation and planning of the player's competitive schedule. Helping the player with this is a very important part of the coaches work.

I would like to finish by citing Martina Hingis as a good example of a player who has progressed through the various levels of the game in a logical way. Hingis was first ranked the No. 1 Junior in Switzerland. She then began to play successfully, regional junior events such as Tarbes and the European Tennis Association 14 & Under events. She quickly progressed to the ITF Junior Circuit and at the age of 12 and 13 was successful enough to win Junior Grand Slam events. Having achieved a top ranking in the juniors she moved on and focused more and more at the professional level. Her movement through to the next level of the tournaments didn't depend so much on her age as the fact that she had achieved the various goals. Players such as Hingis, Agassi, Chang, Lucic who break through at an early age are the exceptions. They made the breakthrough into the top levels at a very early age. Other players may achieve these goals a little bit later. In the men's game the majority of players are breaking into the top 100 at the age of 21/22 years. In the women's game the majority break through at age 18/20. Therefore encourage the players to take their time to learn the tools of their trade, and to work their way through a logical career path and plan carefully your competition schedule.

I hope that the above information helps coaches, players and parents in the difficult task of tournament scheduling.

FIGURE 1

The following figures show the number of top 10 ITF Junior world ranked players that eventually reached the top 100 in the men's and women's game. (as at June 1995)

	Boys	Girls	
1985	4	4	
1986	7	7	
1987	7	5	Average number of boys 5.2 per year
1988	6	6	
1989	8	6	Average number of girls 5.1 per year
1990	2	4	
1991	3	4	

These figures suggest that if you achieve a top 10 end of year junior world ranking you have a 50% chance of breaking into the top 100 of the men's and women's game.

FIGURE 2

An Analysis of the Top 30 Junior Boys and Girls (at year end 1993)

This shows how they had performed in the Pros after 4 years. (by year end 1997)

WOMEN

25% made it into the top 100

51% made it into the top 150

70% made it into the top 200

MEN

26% made it into the top 100

53% made it into the top 200

61% made it into the top 300

Conclusion

Reaching the top 30 of the ITF Junior World Rankings is a good indicator of success in the Pros.

DEALING WITH DEFICIENCIES

by Marcel K. Meier (Switzerland)

As coaches we all know that it is barely possible to play without making mistakes. That is even true for the best. Nobody has the ability to maintain concentration during the whole game to a level where no mistakes occur. It is thus important that the players realize themselves that mistakes belong to the game and are necessary in order to learn. They also indicate what can be further improved.

ACCEPTING MISTAKES

An inappropriate action and its results, (the mistake), play an important role with the training of children and youngsters. Mistakes are obvious consequences of the great demands placed on brain-work and motor functions, especially within the forms of sport involving games. Thus dealing with mistakes becomes for both coaches and players an important component of the daily sport-activity.

DEFICIENCIES AND THEIR CORRESPONDING MISTAKES

Mistakes are patterns of behaviour, which hinder the players from choosing appropriate goals or achieving the chosen ones. The reasons for these mistakes are always some sort of deficiency. The combination of deficiencies and their corresponding mistakes exist no matter how good the players are although there are substantial qualitative and quantitative differences between beginners and experts. The figure "Michael is not able to play!" (Figure 1) gives an overview of possible deficiencies.

NO IMPROVEMENT WITHOUT MISTAKES

Normally, mistakes are perceived as a negative thing. Children and youngsters receive praise and recognition mostly when they, in comparison with each other, make less mistakes. They try therefore to avoid mistakes. If this attitude becomes the predominant goal during the training, each mistake will be perceived as failure. Consequently, the training may

develop into a source of frustration instead of pleasure and may inhibit the development of self-confidence.

That is sad and unnecessary. Learning without making mistakes is impossible. Mistakes should be taken as a welcome prerequisite towards an improvement of the performance. That should not mean that mistakes per se are positive. Decisive though is the fact that mistakes can be taken as feedback regarding the effectiveness of the action performed. For the players, this type of feedback - when taking the whole value of the information into account - is often much more meaningful than a mere statement from the coach about whether the motion was "accurate" compared to the "standardized motion of a picture-book".

ALWAYS NEW AND DIFFERENT

Considering that each action of a player may be influenced by up to a million different factors, it becomes clear that two shots over the net (tennis) will never be the same. Active influencing of and adaptation to the changing external and internal conditions must thus be important goals of each training unit in order to increase the reliability of the player's performance. However, it must be clear that although the likelihood of making mistakes may be lowered by goal oriented, specific training, it will never approach zero. Generally we can say: the higher the demand on reaction and precision, the higher the likelihood of mistakes occurring.

The main focus while training with children and youngsters should thus not be to avoid mistakes, but to recognize deficiencies in order to complete and perfect the player's adaptability to different situations.

Nevertheless, a mistake can have positive effects if coaches follow the following aspects while analyzing the player's performance:

1. DETERMINE THE MISTAKES INDIVIDUALLY!

In order to determine deficiencies, not only the objective parameters but also the players personal prerequisites and qualifications should be considered. Therefore, it would be inappropriate with beginners to define a "not yet optimized" technical action as a mistake or bad action. Constructive criticism needs to concentrate on a predetermined definition of "what to do". Only if players know what exactly they should do or achieve, will they be ready to understand the nature of the mistake and be able to draw the appropriate conclusions..

Also with respect to the technical side of the whole action, players need to be addressed individually. However, the following characteristics - no matter what level of advanced players we have - should apply for technical motions:

- They should be easy to learn.
- They should allow, with little adjustments, to master various situations.
- They should be adjustable without difficulties according to the progress of the players.

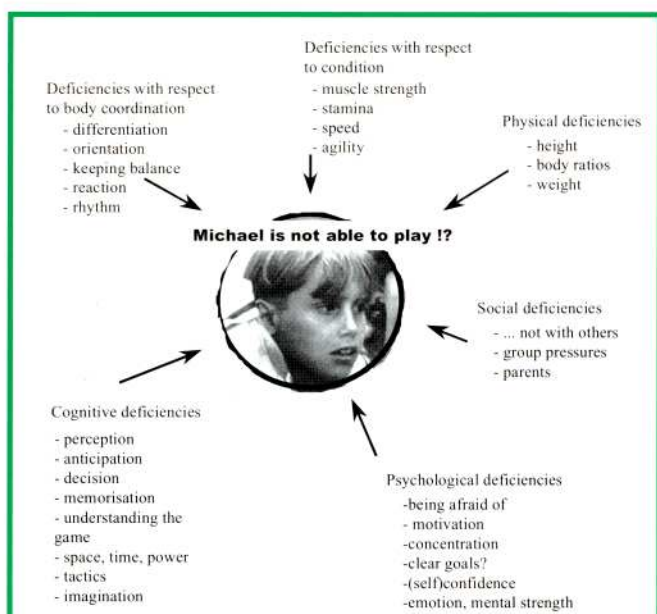


Figure 1: Possible deficiencies (modified from NAGEL 1990, 51).

2. ANALYZE THE WHOLE ACTION!

Coaches frequently look only at the specific action of "hitting the ball" and thus only recognize technical deficiencies of mistakes at just that moment. But many mistakes result from insufficient perception, imagination or decision-making and are thus rather mental mistakes than technical ones. Hence, the analysis of mistakes must involve the whole process leading to the final action.

Check whether the player's goal is achievable at all. It is possible that external, internal or social boundary conditions lead to mistakes, which are not to be eliminated through short-term corrective measures.

3. EVALUATE A RANKING OF DEFICIENCIES!

Every mistake may be the result of several deficiencies. It is most important to recognize the primary mistake, which may provide the basis for other deficiencies and mistakes. It is crucial to determine which defective action is merely a consequence of another defective action. The analysis of mistakes gets especially difficult as soon as two deficiencies wipe each other out so that the result will not give us an indication of present deficiencies. Obviously, the large variety of factors influencing performance impedes the straightforward ascertainment of the "main" reason for bad action. See figure 1 for an overview of influencing factors.

4. CORRECT "THE RIGHT THING"!

While looking out for the main reason causing the mistake, it is especially important to search the dialogue with the players and ask them about what they thought, felt or wanted to achieve. Answers may lead us to the key mistake. An example: Most of the balls of one of our young tennis players are too low and thus hit the net. So the coach starts correcting the motion of the racquet and says: "Go more below the ball so that you can lift the ball better". The player follows these instructions but very little changes the balls still hit the net. So the coach asks his protégé: "How high do you want to play the ball over the net?". "About 5 to 10 centimetres, just like the big guys on TV", answers the young lad. As soon as the astonished coach explains that it is physically impossible to do so and that also the professionals play 1 to 2 meters over the net, the young player aims higher, and he could consequently hit the ball more than 150 times over the net with no problems.

This example makes clear that deficiencies often are not to be found in the technical execution of the action. Frequently, wrong mental ideas or lack of understanding lead to mistakes. A prerequisite for progress though is that players can understand and accept the given information and that they are able to transform the information into better action.

Experience indicates that forms of correction involving not only technical, motion-oriented tips but also and primarily corrections considering the strategic, tactical and social behavior of the player, result in faster, more sustainable, enhanced progress.

5. CONSIDER FOR ONCE "NOT TO CORRECT"!

Finding the real mistakes and treating them adequately is difficult. Especially when a coach needs to overlook groups of 10 or more children and youngsters, he will see lots of

mistakes - or at least action looking like mistakes. Where should he or she start with corrections? How can all the necessary information be fitted into the tight schedule of the training unit? This situation often results in too little thinking and thus superficial and stressed corrections. But:

Possibly, it is better to refrain from a correction than address the mistakes superficially.

Also players perceive corrections which fail to address their problems as confusing and nerve-racking.

ANALYSIS AND PROCEDURE WHEN CORRECTING

Observe, assess, and advise:

1. Gain a general impression of your player's game. Challenge - overtax! Let your players come up against their limits!
2. Observe the result of the whole action!
3. Prioritise according to the qualifications of your players! Assess!
4. Formulate an educational aim, (if necessary partial aims!)
5. Choose exercises and carry them out!
6. Check and consider! Compare new against old and draw conclusions!

LEARN-EFFECTIVE CORRECTIONS ARE ACHIEVED BY:

- Set tasks.
- Explain the logic and reason of the corrective measure.
- Allow contrasting experiences.
- Demonstrate and accentuate essentials.
- Use visual tools (pictures, video, sequential pictures).
- Use metaphors.
- Tackle only one mistake at a time - the main one.
- Allow time to gain experience.
- Correct individually.
- Convince for necessary corrections.
- Don't merely say what is wrong, demonstrate how to make it better.

INDEPENDENCE

Allow and teach children and youngsters to observe themselves, so that they learn to recognize their own deficiencies. It is especially important to teach them how to listen to the information coming from different senses. Such a differentiated perception and search for possible reasons for mistakes will lead to the introduction of decisive corrective measures by themselves. Let the players vary their techniques, let them carry out analyses of mistakes, let them interpret feedback coming from the coach. In short: Let them improve step by step their inner picture through active participation. This way, the individuals ability to perform well in different situations will develop better and faster. Instead of orienting the development towards a theoretical model of the technical motion, it is better to focus on the purposeful development of psychological, social and cognitive abilities.

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FROM TECHNICAL TO TACTICAL TRAINING

by Aleš Filipčič (Slovenia)

1. INTRODUCTION

The term technical-tactical training is commonly used in tennis. The question arises as to whether those two types of training should always be connected. This issue will be pursued in the following article.

There are three actions which are in progress during a tennis stroke:

1. Perception and analysis of the situation
2. Decision making
3. Executing the stroke

The definition of technique says that it limits the final performance of the stroke and enables the communication with the opponent. With a technical point of view, tennis strokes should be: simple, economical and successful (effective).

The most important factor in tactics is technique. A high level of technique enables proper tactical solutions. Therefore, it can be stated at this point that technique and tactics are highly correlated.

The question arises here whether technique and tactic can be trained together at the same time. Through this article, I will try to give my answers to this problem. How can these problems be found during practice?

2. FROM TECHNICAL TRAINING THROUGH TO SITUATION TRAINING TO TACTICAL TRAINING

2.1. Technical training

Technical training should be oriented to the following goals:

1. To teach and develop basic body movement executing the tennis stroke (use biomechanical, physiological and anatomical principles; for example: body chain reaction, pre-extension of muscles, torsion, timing, use of proper grip for different strokes etc.).

Drill 1: Players rally hitting down the line or cross court forehands or backhands.

2. To develop control of the direction (cross court, down the line, inside out, short cross court...).

Drill 2: Players rally using the mini tennis court (service boxes) with cross court shots

Drill 3: Players rally hitting down the line or cross court forehands.

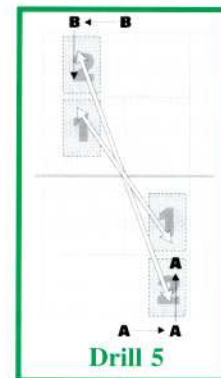
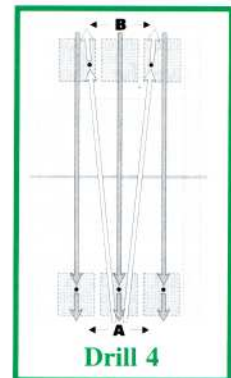
Drill 4: Players rally hitting forehands or backhands to the three boxes as in the figure. They can't repeat two shots to the same box.

3. To develop control of depth (long, middle, short).

Drill 5: Players rally hitting cross court forehands to boxes 1 and 2

To develop control of the different rotations of the ball (very low, low, optimal, high - use of different follow-through - flat, spin, slice).

Drill 6: Players rally hitting shots with different spins



depending on the height of the ball positioned not further than 1 m behind the baseline.

4. To develop control of the different speeds of the ball (slow, fast, very fast).

Drill 7: Players rally hitting shots with different speed degrees from 1 to 10. It is important not to lose control of the rally

5. To teach and develop proper movement of the body for different situations on the court (when to use open stance, close stance, jump etc.)

Drill 8: Players rally hitting forehands while focusing on the different footwork in the baseline depending on the type of shots.

Drill 9: Same as above but players hit forehands inside the court and focus on the specific footwork for these shots (inside out forehands).

These exercises are adequate for technical goals. Players practise perception and analysis of the situation (direction, rotation, height and speed of the ball) and executing of the stroke. The second step is not practised since players do not need to choose among different possibilities. Therefore, the exercises are purely technical ones.

2.2. Game situation training

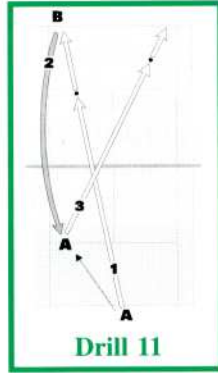
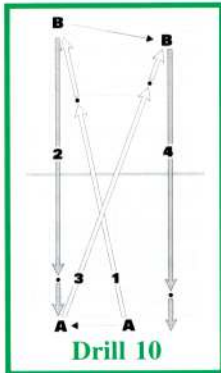
Game situation training should be oriented to the following goals:

1. To define a player's game profile (all round, aggressive base liner, base liner, serve & volley).
2. To find out in which game situation a player is successful.

- To find out in which game situations a player has problems.
- Game situation training.

Drill 10: Serve - return + 1 stroke. Player A serves, player B returns down the line, player A plays a cross court backhand and player B plays a down the line backhand. Then they play the point.

Drill 11: Serve - mid court situation. Player A serves, player B returns down the line, player A plays an inside out forehand to the open court. Then they play the point.



Drill 12: Serve - net situation. Player A serves and comes in, player B returns and they play the point.

Drill 13: Defensive situation (passing, lob etc.). Player A serves, player B chips and charges and they play the point. Player A has to play lobs or passing shots to pass player B.

2.3. Tactical training

Tactical training should be oriented to the following goals:

- To present a theoretical background of tennis tactics (covering the court, use of different strokes, use of different tactical plans for playing against different players).

- To practise covering the court.
- Tactical training

Drill 14: 5 strokes point. Player A serves, player B returns. They have to pass 5 balls over the net and then play the point.

Drill 15: 3 points in a row game. Players play points. They can only win a game when they win 3 points in a row.

Drill 16: 3-2-1. Same as above but after winning 3 points in a row, they can win a game if they win 2 points in a row and then just 1 point.

- To practise the use of different tactical plans against different players.

Drill 17: Player plays practise matches against baseliners, aggressive baseliners, serve & volleyers.

To prepare for playing against a given player in the tournament and to analyze the match afterwards.

3. CONCLUSION

This is an example of a short path from technical to tactical training. Some characteristics of tactical training include:

- Tactical training should consist of playing or competing situations /sparing,
- Players should use all strokes: service, return, basic strokes...
- There should be variability of different solutions: service, return, directions, rotations, height of the ball, etc.
- Players should recognise (feel) possible solutions,
- Coach analyses and comments only to the decision making (tactical part) and not the technical execution of the stroke (correction of tennis strokes),
- Permanent communication between the player and coach,
- Player needs to be involved in the training process (need to find their own tactical solutions).

A SYSTEMATIC APPROACH TO TRAINING SESSIONS

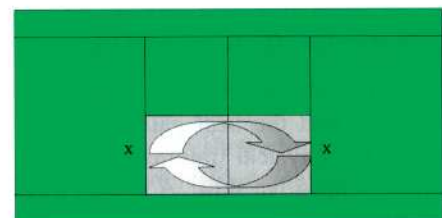
By Suresh Menon (ITF Development Officer for Asia)

INTRODUCTION

During my tenure as national coach of Indonesia and Malaysia I found that I had a lot of success when I conducted tightly structured practice sessions. With only limited practice time, it was important to obtain the optimal levels of efficiency during each practice session. On most occasions, individuals have sessions which are unsupervised. Their practices are not well planned and tend to lack structure. Many times they come away with a feeling of dissatisfaction at not having accomplished much during the session.

I believe it is very important to always practice with a purpose and make each session count. This article is one of a series designed to guide individuals on some effective methods of conducting practice sessions. It offers a structured outline on how a practice session may be conducted to obtain optimal

results. In this article, we begin the practice sessions with simple techniques and progress to more complex drills which encompass all aspects of the game.



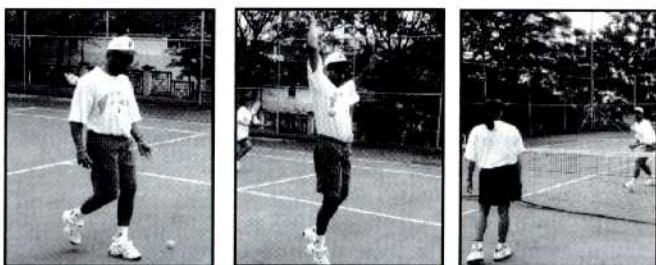
■ AREA OF COURT USED

EXERCISE 1

Players usually begin their practice session by first having warm up sessions, which include dynamic and static stretching. Once they have concluded this, players can begin with the following exercise for balance.

Drill: 1**Name:** Sock-um**Number of players:** 2**Time:** 5 minutes**Court:** 1/2 court service box with net

Game: No racket or hands allowed, only feet, chest etc can be used. Each player can handle the ball a maximum of 3 times only. While manoeuvring the ball, only one bounce is allowed. By the third time, the ball must be sent across to the opponent's side. Each game is worth seven points.

**EXERCISE 2**

Once the players have completed Sock-um, the next progression involves a number of drills using rackets, to improve their hand eye co-ordination and reflexes. The drills are played in the mini-tennis court but with added variations. They are excellent for warming up the players before they get into intensive practice sessions.

Drill: 1**Name:** Bounce**Number of players:** 2**Time:** 3 minutes or seven points.**Court:** 1/2 court service box with net

Game: The players have to let the ball bounce each time and are not allowed to play it in the air. No volleys allowed.

Drill: 2**Name:** No Bounce**Number of players:** 2**Time:** 3 minutes or eleven points.**Court:** 1/2 court service box with net

Game: The players are not allowed to let the ball bounce and have to volley it every time. No smashes and no hitting the ball down are allowed. Balls must be hit upwards with an open racket face.

Drill: 3**Name:** Smashless**Number of players:** 2**Time:** 3 minutes or eleven points.**Court:** 1/2 court service box with net

Game: The players can either play the ball in the air or on the bounce. They are not allowed to smash the ball down. When volleying, the ball is hit upward with an open racket face.

Drill: 4**Name:** Half and half**Number of players:** 2**Time:** 3 minutes or seven points.**Court:** 1/2 court service box with net

Game: The server has to let the ball bounce each time, while the receiver must alternate between hitting the ball on the bounce and in the air. The players then alternate.

NEUROMUSCULAR PATTERNS IN THE SERVE

By Pedro Pezarat Correia and António Veloso (Portugal)

1. INTRODUCTION

Nowadays the serve is fundamental in the tennis game, particularly on the faster surfaces. It demands power, accuracy and economy of effort, since it is repeated many times during a game. These qualities depend on the neuromuscular patterns produced by the player which are acquired and developed through the training process. In parallel to the technical training, the strength training can enhance the technical execution, and can be responsible for an improvement in the effectiveness of the serve.

The specificity that characterises the muscular participation in tennis implies that the best gains in performance are acquired when the physical training is done as similar as possible to the competitive skill. A correct training process should, therefore, choose the exercises which will recruit the right muscles, but it should also select the specific movement features, trying to stimulate the neuromuscular co-ordination patterns similar to those verified in the serve. Nowadays the characterisation of those patterns have been made through the study of the muscular activity (using electromyography) and the three-dimensional cinematic analysis of the movement

in the different joints during the performance. This data provides a scientific basis which should be taken into consideration in respect of the organisation of the training process.

2. IDENTIFYING THE MAIN MUSCULAR GROUPS INVOLVED IN THE SERVE**a) Movement of the trunk**

In the serve, the trunk movement is a fundamental link in the kinetic chain which transfers energy from the extension of the lower limbs to the arm during the hitting phase. At this level the contraction of the abdominal oblique muscles (internal and external oblique muscles) assumes a very important role in the fast rotation of the trunk. So, additional to the general exercises for the strengthening of the muscles of the abdominal wall, it is fundamental to include in the training program abdominal exercises with trunk rotation. This can be done isolated or combined with the trunk flexion. On the other hand, the high velocity of the trunk rotation produced during the serve requires powerful trunk rotators. The abdominal work based on a lot of repetitions, is time

consuming and doesn't constitute the best form of developing abdominal power. Thus, rather than executing many repetitions of low intensity, it is necessary to give more emphasis to the dynamic training of high intensity. This can be achieved by including exercises with external loads or just with the weight of their own body, but with maximum execution speeds.

b) Movement of the arm

The trunk rotation has continuity in the anterior projection of the scapula and in the horizontal adduction of the arm produced by the powerful muscles located on the anterior part of the thorax and shoulder. Exercises with loads that include the horizontal adduction of the arm are a good form of building up these muscles.

The three-dimensional analysis of the serve (Sprigings et al., 1994; Elliott et al., 1995) showed that the internal rotation of the upper arm seems to give the largest contribution for the racket head velocity in the instant of the ball contact. These results indicate that the power of the internal rotator muscles contributes decisively to the development of the speed of the racket in the serve. This idea is reinforced by the study of Mont et al. (1994). The ball speed in the serve increased 11% for players that specifically trained the internal rotator muscles. The use of exercises for the internal rotation of the arm with loads involving high execution speeds, constitutes an important element in the muscular conditioning plan of the tennis player, but it should be combined with an adequate flexibility training of the internal rotators.

The muscles that decelerate the internal rotation of the upper arm and the external rotator muscles, located in the posterior face of the scapula should also be worked on specifically. These muscles are in smaller numbers and are less powerful than the internal rotator muscles. The repetitive solicitation at the highest intensity of the internal rotator muscles in relation to the lateral rotators can still accentuate that difference and to produce a functional imbalance in the shoulder musculature of the dominant member. Consequently, the frequent repetition of fast internal rotation movements of the arm, which have not conveniently decelerated, induces joint instability and can cause injury (lesion in the shoulder). Specific exercises for the tennis players to strengthen the lateral rotators of the upper arm help develop a favourable balance between the internal and lateral rotators, improving the performance and preventing lesions in the tennis players' shoulder.

c) Movement of the elbow

During the serve, the muscles in the elbow play a different role when compared to the backhand, forehand or volleys. When performing those skills, the role of the elbow muscles are essentially related to the joint stabilisation against the forces generated during the ball impact. In the serve, the fast forearm pronation and extension are also required during the hitting. This is basically produced by the Triceps Brachi, which are located in the posterior part of the arm. Exercises with loads that require the elbow extension can be important. We should remember that the forearm extension in the serve is part of a kinetic chain with forces flowing from the proximal segments through the arm. Moreover, the Triceps Brachi is a bi-joint muscle, also linked with the arm movements. Preferential exercises should be chosen where the forearm extension is combined with the arm movements as shown in the "bench-press" and the "push-up" exercises. If we want a

more specific way to activate those muscles, we should choose an exercise where the forearm extension is combined with the horizontal adduction and internal rotation of the arm, with a sequence and time structure similar to the serve. However we should point out the possibility that an increase in the forearm extension velocity can have a negative effect on the racket head velocity as was verified by Sprigings et al., 1994 and Elliott et al., 1995.

The velocity of the elbow extension reaches its maximum peak about 40 milli seconds before the contact with the ball, decreasing to zero at that instant. This is due both to the sudden silence of Triceps Brachi and the activation of the flexor muscles. The reduction of the forearm velocity results in an increase of the hand velocity, reinforced by the contraction of the anterior muscles of the forearm. The flexion and adduction of the wrist, precedes the moment of impact, and its contribution to ball speed is close to that of the internal rotation of the arm.

3. RECOMMENDATIONS FOR A BETTER INDUCEMENT OF THE MUSCULATURE INVOLVED IN THE TENNIS SERVE

In the previous section we identified the muscular groups required most often in relation to the tennis serve. However, some movements seemingly similar, and produced by the same muscles, can present completely different patterns of muscular activation, if they are accomplished in different conditions (inertia of the manipulated objects, movement velocity, demands of precision, number of joints involved, etc.).

a) Speed of movement

The upper arm movements in the tennis serve are ballistic by nature, requiring musculature capable of producing movements of great speed. The movement speed is essentially the function of the following three aspects:

- (i) Musculature with capacity to generate great levels of force in a very short period of contraction time.
- (ii) Ability to take advantage of the muscular lengthening in the preparatory phase.
- (iii) The technique, the result of the co-ordination among the different muscles. This means, that the gains in speed could be due to a better activation timing of the different muscles involved (efficient use of the biomechanical chain) and not only to their individual strength.

b) Contraction times

The muscles involved in the racket acceleration present very short contraction times. As an example, the muscles responsible for upper arm movements (horizontal adduction and internal rotation) and for the forearm extension, present during the tennis serve, produce contraction times which do not usually exceed 300 milli seconds. It is in this short period of time that the muscle has to develop the maximum force. The muscular force generated after that precise instant will be wasted. Several studies showed that the best performers present patterns of more regular, consistent and also shorter periods of contraction. The capability of the muscle to produce the maximum of force in the initial moments of contraction is fundamental. The initial rate of production of the force is a decisive quality for the increase of the speed of movement

c) Strength training

Strength training which seeks to increase power (capacity to produce force with high speeds) require special attention to

the quality of the execution of the exercise, guaranteeing that the performer tries to reach the maximum levels of force as soon as possible from the beginning of the movement. An execution accomplished in a slower way, through a movement in which the levels of force increase progressively should be avoided. Although the use of higher loads has its place in the tennis player's training, it is better to use loads which allow a good relationship between intensity inducement and the execution of speed. Loads of about 30% of the maximum voluntary contraction seem to be best.

The effectiveness of the exercises with weights as it is usually accomplished in undifferentiated strength training should be questioned, since a considerable portion of the time of the concentric phase (phase during which the performer moves the resistance) is occupied with the deceleration of the movement. An alternative is for the execution to involve pushing the resistance and releasing it as far away as possible. This allows acceleration until the resistance leaves the hands, forcing the muscles to develop a higher level of tension.

d) The importance of timing

The preparatory phase of the tennis serve creates conditions for a more effective hit. One of the advantages of the preparatory phase is purely mechanical: it allows the ideal positioning of the body segments to increase movement amplitude and acceleration in the following phase. However, the advantage of the preparation is also related to the lengthening produced in the muscles that will be responsible for the movement in the hitting phase. The pre-stretching develops a store of elastic and nervous energy that help make muscles contraction more effective in the initial part of the striking movement. The key to storing this energy in the preparatory phase is the precise timing of the stretch-shortening cycle which, depends on the fluid transition between the preparation and hitting phases. If this timing is good the elastic energy release and the stretch reflexes will maximise the energy available to accelerate the body segments and as a consequence to accelerate the ball. Strength training movements should be selected which take into account the timing and the movement of the structure which is present during the tennis serve, especially the stretch-shortening muscular cycle.

e) Flexibility training

The use of muscular elasticity on the speed of the movement justifies the point that flexibility training should play an

important role in the conditioning of the tennis player. The specific training of flexibility guarantees the increase of movement amplitude, allowing the placement of body segments in positions where a large power can be developed through a better use of the elastic energy on the movements. This is particularly important for the shoulder muscles of the tennis player.

4. Conclusion

The power serve movement in tennis is characterised by a precise interlimb co-ordination pattern where all body segments are involved, presenting a proximal-distal time sequence. In this sequence, the racket speed is built up through the summation of the individual segments speeds, transferring mechanical energy from the body's centre of gravity to the last element of the kinetic chain, the racket. The strength conditioning exercises in the gymnasium should consider this interwired co-ordination chain. The strength training exercises that are similar in movement to the serve and where the complete body segment chain is involved should be predominant. The number of limbs involved and also the similarity of the movement patterns with the actual tennis movements (direction, amplitude and speed of the movement) are the best criteria for choosing the strength exercises. On the other hand we should be aware that gains in strength and speed will directly effect the player's level. Nevertheless, whilst these complementary exercises for the development of force and power can be very useful in the improvement of a powerful muscular serve, we should point out that the best way to really train the tennis serve musculature is to practice this skill on the tennis court.

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ITF INTRODUCES THE ITF CODE OF ETHICS FOR COACHES

The topic of coaching ethics was discussed at length by the ITF Coaches Commission earlier in 1998 and as a result it was decided that the ITF should establish an official ITF Code of Ethics for coaches. The Code which was produced in consultation with the ATP and WTA is intended to provide a series of constructive guidelines to assist coaches in their profession and in particular in situations that may have ethical implications.

The Code will form part of the ITF Coaches Education

Programme and will be included in all ITF coaches workshops including Level I and Level II coaches courses. National Associations are also encouraged to use the Code in their coaches education programme and to ensure that coaches at all levels of the game sign up.

The Code is available in the form of a certificate in English, French and Spanish. National Associations requiring further information regarding the ITF Code of Ethics should contact the ITF Development Department.



INTERNATIONAL TENNIS FEDERATION

CODE OF ETHICS FOR COACHES

THE TENNIS COACH WILL

1. Treat all students with respect at all times. Be honest and consistent with them. Honour all promises and commitments, both verbal and written.
2. Provide feedback to students and other participants in a caring manner sensitive to their needs. Avoid overly negative feedback.
3. Recognise students' right to consult with other coaches and advisers. Cooperate fully with other specialists (eg. sports scientists, doctors, physiotherapists etc.).
4. Treat all students fairly within the context of their sporting activities, regardless of gender, race, place of origin, athletic potential, colour, sexual orientation, religion, political beliefs, socio-economic status, and any other condition.
5. Encourage and facilitate students' independence and responsibility for their own behaviour, performance, decisions and actions.
6. Involve the students in decisions that affect them.
7. Determine, in consultation with students and others, what information is confidential and respect that confidentiality.
8. Encourage a climate of mutual support among your students.
9. Encourage students to respect one another and to expect respect for their worth as individuals regardless of their level of play.
10. At all times use appropriate training methods which in the long term will benefit the students, and avoid those which could be harmful.
11. Ensure that the tasks/training set are suitable for the age, experience, ability and physical and psychological conditions of the students.
12. Be acutely aware of the power that you as a coach develop with your students in the coaching relationships and avoid any sexual intimacy with students that could develop as a result.
13. Avoid situations with your students that could be construed as compromising.
14. Actively discourage the use of performance-enhancing drugs, the use of alcohol and tobacco and any illegal substance.
15. Respect the fact that your goal as a coach for the student may not always be the same as that of the student. Aim for excellence based upon realistic goals and due consideration for the student's growth and development.
16. Recognise individual differences in students and always think of the student's long-term best interests.
17. Set challenges for each student which are both achievable and motivating.
18. At all times act as a role model that promotes the positive aspects of sport and of tennis by maintaining the highest standards of personal conduct and projecting a favourable image of tennis and of coaching at all times.
19. Do not exploit any coaching relationship to further personal, political, or business interests at the expense of the best interest of your students.
20. Encourage students and other coaches to develop and maintain integrity in their relationships with others.
21. Respect other coaches and always act in a manner characterised by courtesy and good faith.
22. When asked to coach a student, ensure that any previous coach-student relationship has been ended by the student/others in a professional manner.
23. Accept and respect the role of officials in ensuring that competitions are conducted fairly and according to established rules.
24. Know and abide by tennis rules, regulations and standards, and encourage students to do likewise. Accept both the letter and the spirit of the rules.
25. Be honest and ensure that qualifications are not misrepresented.
26. Be open to other people's opinion and willing to continually learn and develop.

President, ITF



Tennis Coach

MENTAL TRAINING SIMPLY DONE

By Svatopluk Stojan (Switzerland)

1. INTRODUCTION

All coaches and players today appreciate the importance of mental training. But the question is WHAT is Mental Training and HOW is it done? Suddenly they remember the complicated terms from the last coaches' workshop like "pre-start-stand, stress and conflict situations, aspiration level, frustration, tolerance, rituals". For some it could result in feelings of total hopelessness. But those feelings are groundless! Don't search for something mysterious in mental training. The following recommendations are simple and based on logic and common sense.

How to train mentally?

The aim of mental training is to improve in such a way that you learn to control your feelings, your body, and your self-control which results in you reaching your best performance in a match. To prepare mentally and to act correctly in a tough match, you have to respect the following principles:

1. Prepare yourself especially during the last 60 minutes before your match
2. Be happy when you are nervous before the match!
3. Be aware that match results are often decided during the breaks
4. Master your own concentration
5. Maintain optimal behaviour
6. Adopt a fighting spirit, keep control of your destiny (be aggressive / attacking)
7. Keep a sense of humour on the tennis court

2. PREPARE YOURSELF ESPECIALLY DURING THE LAST 60 MINUTES BEFORE YOUR MATCH

You should come to the tennis club about one hour before your match, to have enough time to change your clothes, warming up, and for mental preparation. This can be done by thinking about your goals for the match and your tactics.

Tip for training: Ten to fifteen minutes of warming up positively influences any negative psychological feelings. Try to remember your last successful results, and your good training in the last few days. Analyse the strong and weak areas of your opponent, and your own strengths. Plan some tactical variations and most importantly, your tactics for the first 2 or 3 games. A simple tactical plan is enough, but it is better not to leave it to chance. For example: "My opponent is strong at the net. I will try to hit deep balls and to reach the net before him!". If you know in advance what you can expect in the match and how you will react, you will play more calmly and be relaxed.

3. BE HAPPY WHEN YOU ARE NERVOUS BEFORE THE MATCH!

All players, even the champions, are nervous before an important match. This is a required, precondition for an excellent performance. Slight nervousness increases the concentration, while too much nervousness can hinder your co-ordination and quick reactions. And don't forget that your opponent may be even more nervous than you. When you are still nervous after two or three games, run and move as much as possible. Run for every ball, even for those that land outside the court, or concentrate on one detail in your game, such as your early backswing.

Tip for training: Accept your nervousness as something quite natural. Correct warming up and a bit of slow jogging before your match will decrease your nervousness and loosen you up to avoid cramps and stiffness. During your training, involve in breaks your own rituals or simulate possible match interruptions leading to nervousness. For example, as a coach, interrupt a practice match between the first and second service, or ask the umpire to make an intentional wrong decision and see how the player concerned reacts.

4. MATCH RESULTS ARE OFTEN DECIDED DURING THE BREAKS

It is amazing how little attention coaches and players give to the correct utilisation of breaks between the points and during the change of court. Most people practise with the sole aim to perform optimally during the rallies. But the success of a player actually depends to a large extent on his behavior during the breaks, which take approximately 80% of the entire match time. During these breaks decisive mental reactions occur.

Take full advantage of breaks, but don't cross the limits given by tennis regulations. Don't hurry! Sometimes during change of court, let the opponent be the first to leave the bench. Copy the behaviour and especially the rituals of great players: immediately after the point, transfer the racket to your non-playing hand, to relax your muscles. Look at something neutral, such as the racket strings, and "adjust" them with your fingers. The rituals before the service and the return are also very important. For example, bounce the ball a few times before serving, or shuffle your feet slightly before returning your opponent's serve.

These seemingly comical and superfluous rituals have a remarkably positive influence. They help to minimise the mental pressure. Most players in stress situations tend to hurry. The rituals secure a natural rhythm, timing and concentration. You will play more relaxed and your movements will be better co-ordinated. The rituals also minimise your fear of a double fault. They help you to relax and be optimally prepared for the battle for the next point.

Tip for training: You have to learn to copy the behaviour of great players even in your training matches. Develop your rituals and practice them so they become habit.

5. HOW CAN YOU MASTER YOUR OWN CONCENTRATION?

Nobody can concentrate totally during the entire match. The concentration capability depends very much upon the recovery skill and this depends upon endurance. The better your stamina, the faster you can relax and recuperate, and this will postpone your mental fatigue. The most common reasons for bad concentration are being angry and dwelling on "stupid" errors or mistakes of the umpire.

Tip for training: In training you have to make maximum use of all opportunities for recovery. One of the best ways is through model training, for example Harry Hopman's drills, in which you train your stamina as well. After every rally you must take a long enough break to relax. In practice

matches learn always to concentrate only on the next point. Again, the proper way to do this is through a strong, disciplined use of rituals.

6. OPTIMAL BEHAVIOUR

In all fairness I say "optimal", because the so-called positive behaviour, recommended by all tennis experts, can't always be the absolute "best". I have known players who "exploded" after stupid mistakes, throwing their rackets to the ground. Some of them have tried, according to their coaches' recommendations, to conceal these negative emotions. Often they had success and then played better. Others controlled their negative actions and seemed calm after their errors. Their visible behaviour was better and everyone - the coach, parents, and visitors - saw it and praised their efforts. But inside these players were still full of anger, felt the unfulfilled need to explode, and they played worse than before. They complained: "Previously, after I exploded, the whole incident was over for me. I forgot all about it immediately and was able to relax and fought harder for the next point."

A player with a strong temperament obviously needs such "eruptions" from time to time, which can be soothing for him. It is good for him to praise and encourage himself after a winner, "Good shot, Heinz, come on!". The public applauds enthusiastically and accepts his positive reaction. It is paradoxical that the same spectators react to his disappointments negatively, despite the fact that this reaction is just the opposite side of the coin. I can understand completely the natural need of players to somehow react in moments of disappointment.

But after such an explosion, which should be done fairly, decently, and in a "civilised" way, the player has to be ready to fully fight. Again I do not hear of these explosions very frequently, nor do I recommend them for all players, but the aim of a match is not to behave according to generally recommended standard, but rather for the player to prepare himself optimally for the fight of the next point. Clearly, most players would best prepare for the next point using positive, fair, calm behaviour, but other players indeed could benefit by a few explosions which could help them achieve optimal match performance. Remember each player is different.

Tip for training: In training matches look for the optimal reaction to "stupid" errors, and even to conflict situations such as errors by the umpire. First try to follow the motto "Learn to react positively and your performance will be optimal!" In most cases this would be the best solution. But when your performance does not improve, you have to look for other solutions. When you feel you have to explode from time to time, do it in training but in a fair and civilised way, even with humour and try to minimise these reactions. Seek suitable rituals (possibly a comical revolving of the racket around your fingers), which your common sense accepts as an equivalent substitute for your explosions. When you are successful in this way, you have beaten yourself, and this is the most valuable victory.



7. FIGHTING SPIRIT, CONTROLLING YOUR DESTINY (AGGRESSIVE / ATTACKING)

Many tennis friends unfortunately don't play to win, but rather play not to lose. There is a great difference between the two. The winners play with the hope to win, the losers play in the fear of failure. Neither undervalue the opponent, nor overvalue him at any cost. In principle you don't play against him, but against his technique. You need to hit the oncoming ball effectively. This ball has, through its flight, to respect the laws of physics, regardless of who hit it. The ball doesn't transmit the threatening message, "I am coming from a Wimbledon winner, and you have no chance!"

But even the most aggressive player has to see the situation realistically. There is a big difference between the goal of "Victory" and "The best performance". When you have as your goal "to win the match", then you plan something which is dependent not only upon you, but also on the performance of your opponent. When you are not able to control these results on your own, then you run the danger of nervousness and fear. On the contrary, when you set as your goal, "I will give my best with each ball that I hit" you no longer have fear. You only need to push yourself to fight with your full ability.

Tip for training: Fighting spirit and an aggressive game isn't only for the offensive net players. Even groundstroke players can be highly aggressive. Practice often according to the rules of model training, above all in important stress situations. If possible, always play games for a bet. After the match, ask yourself: "Did I fight hard enough?" Your sweat will give you the best answer.

8. HUMOUR ON THE TENNIS COURT

Never take the match too seriously. Humour can minimise stress and pressure successfully. A peaceful smile, a funny gesture, a humorous remark to spectators, show that you have full control of yourself. If nothing else, you will win the public over.

I am sure that laughing is an important part of recovery and relaxation. Laughter is an "inner jogging". A powerful laugh turns the body into a vibrator and results in an "inner message" which leads to a very deep recovery. Laughter and health are closely connected. When we don't laugh enough we will often be ill.

Tip for training: In training matches put on a show with humour (good mood) even when you don't have your good day. Hit the balls spontaneously and relax. Praise yourself after successful strokes. Accept stupid mistakes with humour. But take care not to exaggerate. One of my colleagues always said: "On the tennis court one doesn't speak with the mouth, but with the racket."

9. CONCLUSION

I could go on and speak about self-confidence, determination, discipline, patience and many other factors, which influence the mental strength of a player, but it would extend beyond the limits of this article. In any case, you can now immediately start with mental training on the court.

TENNIS INFORMATION ON THE INTERNET – Organisations, News, Tournaments, Manufacturers, Services, and more

By Miguel Crespo (ITF)

Tennis is gradually becoming very popular on the Internet. In this article we are going to present some web sites related to tennis including organisations, news, tournaments, manufacturers, services and academies, and fan pages of tennis players.

Some of the most famous tennis web sites include the following:

1. WEB SITES OF TENNIS ORGANISATIONS INCLUDE:

- International and National Associations:
 - The International Tennis Federation: www.itftennis.com.
 - The United States Tennis Association: www.usta.com.
 - The French Tennis Federation: www.fft.fr
 - Tennis Australia: www.tennis-aus.com.au
 - The Lawn Tennis Association of Great Britain: www.lta.org.uk.
 - The German Tennis Association: www.deutschertennisbund.com.
 - The Brazilian Tennis Confederation: www.cbtenis.com.br
 - The Danish Tennis Federation: www.dansktennisforbund.dk
 - The Mexican Tennis Federation: www.internet.com.mx/fmt
 - The National Foundation of Wheelchair Tennis: www.nfwf.com.
 - The Intercollegiate Tennis Association: www.tennisonline.com/ita
 - The International Tennis Hall of fame: www.tennisfame.org
 - The Spanish Tennis Federation: www.fedetenis.es.
- Professional tennis associations
 - The ATP tour: www.atptour.com.
 - The Corel WTA Tour: www.corelwtatour.com.
 - The Nuveen Tour: www.nuveentour.com
- Coaches Organisations and others:
 - The United States Professional Tennis Registry: www.usptr.org
 - The United States Professional Tennis Association: www.usptr.com.
 - The US racquet stringers Ass: www.tenisone.com

2. WEB SITES INCLUDING TENNIS NEWS:

- ESPN Sportszone Tennis News: ESPN.SportsZone.com/ten
- Reuter tennis News: www.sportsworld.com/Tennis/index
- Sportsline USA: www.sportsline.com/u/tennis/index.htm
- USA Today tennis: www.usatoday.com/com/sports/other/sotn.htm
- Nando's Tennis Newswire: www.Nando.net/newsroom/sports/oth/1995/oth/ten/feath/ten.html
- Tennis Online: www.tennisonline.com
- USA Network: www.usanetwork.com
- Tennis Magazine: www.tennis.com

3. WEB SITES OF TOURNAMENTS:

- Davis Cup by NEC: www.daviscup.org/
- The KB Fed Cup: www.itftennis.com/events/fedcup.html

- Wimbledon: www.wimbledon.org.
- US Open: www.usopen.org.
- Australian Open: www.ausopen.org
- French Open: www.rolandgarros.org
- Masters: www.masters.org.
- World Team Tennis: www.worldteamtennis.org.
- Mercedes Benz Cup: www.mercedes.benz.com

4. WEB SITES OF PRODUCT MANUFACTURERS INCLUDE:

- The Tennis Industry Association: www.sportlink.com/individualsports/market/tennis/index.html
- Racquets:
 - Head USA: www.headusa.com
 - Prince: www.princetennis.com
 - Wilson: www.wilsonsports.com
 - Penn: www.pennracquet.com
- Strings:
 - Gamma: www.gammasports.com/index.html
 - Gosen: www.gosen.com
- Balls:
 - Penn: www.gencorp.com/pennsprt.html
- Clothing:
 - Nike: www.nike.com
 - Adidas: www.adidas.com
- Surfaces:
 - Xsports: www.xsports.com
- Computer software:
 - Winsports: www.members.aol.com/win4sports
 - CAT:Email:92Computing@msn.com, 2Computing@compuserve.com
 - Sirius: www.tennisinformation.com
 - Infiniti: www.fash.net/-insoft

5. WEB SITES OF TENNIS SERVICES AND ACADEMIES INCLUDE:

- Tennis services:
 - Bob Larson Tennis news: www.tennisnews.com
 - The Tennis Server: www.tennisserver.com
 - Tennis week: www.tennisweek.com
 - Tennis organisation: www.tennis.org.uk
 - General information: www.1stserve.com
 - Tennis Academies:
 - Nike camps: www.us-sportscamps.com
 - Van der Meer: www.vandermeertennis.com
 - Bolletieri: www.bolletieri.com
 - Vic Braden: www.greenvalleyspa.com
 - Hopman: www.hopman.com

6. WEB SITES OF FANS INCLUDE:

- Sampras: www.sampras.com, www.sportsline.com/u/sampras
- Rios: www.marcelorios.com
- Davenport: www.angelfire.com/ca/lindsaydavenport/index.html
- Chang: www.mchang.com

As you may notice, there is a lot to see, read and search about tennis on the web. We will report on more tennis web sites in our next issue. In the mean time have fun surfing!

ITF INSTANT INFORMATION FAXBACK

INTRODUCTION

The ITF is pleased to announce our new Faxback service available from May. Faxback will provide you with instant information by faxdialing the number:

44 (0) 181 878 48 00.

Quickdial access to the pages you want:

- Calendars
- Acceptance lists
- Tournament guides and factsheets
- Entry forms
- This Week – the news bulleting of the ITF

Due to the large number of reports available there is a separate catalogue for each division. To obtain the appropriate catalogue press:

2 for Mens

3 for Womens

4 for Juniors

5 for a comprehensive catalogue of all reports available

6 for This Week

This service is available 24 hours a day. It is updated daily with the latest information. You only have to faxphone and follow the simple instructions.

USER GUIDE

A Faxback and Quickdial use guide is illustrated on the initial catalogue page available at the beginning of May.

What the caller will hear:

“Welcome to ITF faxback. Dial **1** if you know the report code or codes you require”, “to obtain the appropriate catalogue dial: **2** for Mens, **3** for Womens, **4** for Juniors, **5** for a comprehensive catalogue of all reports available, or **6** for This Week, the news bulletin of the ITF. Dial **7** to hang up”

When a caller dials 1:

“Please enter the report code you require. When requesting

more than one report follow each selection with the hash button, to end your selection press *”

Caller enters report codes e.g. 01003000#0202000*

“Thank you for using ITF Faxback, when you hear the tone press receive on your fax machine”

If a caller enters a report code incorrectly:

“One or more of the requested documents is not available. You have not selected any documents, please make a selection” – loop back to the original menu”

When a caller dials 2 – 6:

“Your request has been processed. Dial 1 to review the menu or 2 to receive the report”

Caller presses 1 – loop back to the original menu

Caller presses 2

“Thank you for using ITF Faxback. When you hear the tone, press receive on your fax machine”.

Questions frequently asked and top tips

It just rings and rings...? If a caller dials the faxback number and it continues to ring without connection, the fax lines are busy.

Do I have to listen to the messages? No, once a caller has become accustomed to using Faxback, they can at anytime enter the report code. The caller must wait for the fax to connect/answer before dialling the report code.

I entered the code but nothing happened? If a caller has entered the report code but hears no further message they have not ended that entry with the * button.

My fax machine doesn't have a handset? As long as your fax machine has a speaker and touch-tone facility you will be able to access faxback. Faxback will not work without touch-tone.

I've ordered the wrong document and it's started to print? Hang-up. If you hang-up you will lose the remaining documents.

GENERAL GUIDELINES FOR SUBMITTING ARTICLES TO COACHES REVIEW

Coaches Review is published 3 times per year by the ITF. If you wish to submit articles for consideration, the general guidelines are as follows:

Length: Short articles not more than 4 pages.

Author (s): Name, nationality, academic degree if any, position in an institution or organisation.

Topics: Latest tennis topics (technique, teaching methodology, tactics, psychology, physical conditioning, medicine, training, drills and games, development, etc.).

Text: Use any word processor (Word 7.0 is preferable)

Font: 12 (any type)

Graphs: Use any graph software (Power Point is preferable).

Photos: 2 photos max. per article can be attached.

Submission of articles:

By mail: To ITF Development Department,
Bank Lane Roehampton,
London SW15 5XZ

(ATT. Miguel Crespo, Research Officer),

or to Miguel Crespo,

C/ Pérez Báyer, 11, 10-A,

46002 Valencia, España.

Please attach a printed copy of the article and a floppy disk.

By e-mail: To Miguel Crespo <dualde@xpress.es>

We hope this information will be useful to you. In case you may need any further details, please contact the ITF Development Department.

RECOMMENDED BOOKS AND VIDEOS

BOOKS

Improving your tennis: Double your fun by playing smart doubles by Josef Brabenec, sr Year: 1997. Level: All levels. Pages: 23. Language: English. This booklet includes all the information for playing smart doubles and having more fun. The book caters to the beginner, intermediate, advanced and veteran tennis players as well as teaching professionals outlining the basic and most important elements of the doubles game.

The contents of the book are the following: I. Let's hear it for doubles, II. Game of doubles, III. Four main doubles features, IV. Stroke production in doubles, V. Basic positions in doubles, VI. Correct and incorrect positions, VII. Poaching, VIII. Common sense shots and moves, IX. How to practise doubles skills, X. Mixed doubles, XI. Remember the simple things, XII. How do top players play doubles?

For More information contact: Tennisall Inc.#306 – 1777 West 13 Avenue, Vancouver, B.C., Canada V6J 2H2.

Tennis: The mental training by Antoni Girod Year: 1997. Level: Advanced. Pages: 128. Language: French. This book explains the mental mechanisms that guide the behaviour of tennis players during competition. The author introduces a series of mental training techniques, which will help players to control their emotions.

The structure of the book is as follows: 1. Basic mental preparation (identity, values, beliefs, the mental mechanisms and automatism), 2. Specific mental preparation: Before the match (motivation, stress, internal resources of performance, visualisation, the 4 positions of the match), During the match (determination, stress, resources of the gestures, mental zapping, visualisation, body language) and After the match (the 2 re-dynamic beliefs, the 4 grills to analyse a match, the "re-motivation"), 3. Conclusion.

For more information contact: Editions Amphora, 14, rue de l'Odeon, 75006 Paris. Price approx.: 17 USD.

Formation of the complete tennis player by Leonello Forti Year: 1992. Level: Advanced. Pages: 178. Language: Spanish. This book covers both the psychological evolution of the child in the different stages of development and a player development programme created for mental training in practice and competition.

The structure of the book is as follows: 1. General characteristics of the child in the different stages of development, 2. Axis and goals in tennis for each developmental stage, 3. Types of human communication, 4. Teaching contents in the technical-tactical axis, 5. Tactics and progressions, 6. Optimal ages to develop physical abilities, 7. Other sports, 8. Psychological goals in each stage, 9. Sport and off-sport activities, 10. Periodisation.

For more information contact: Editorial Paidós, C/ Mariano Cubí, 92, 08021 Barcelona. Price approx.: 25 USD.

Tennis History and Sociology publications

Tennis a cultural History, by Heiner Gillmeister. Year: 1997. Level: Advanced. Language: English. This book offers a unique view of the History of tennis as a cultural phenomenon. Price approx: 32 USD. This title is published worldwide, in English, by Leicester University Press except in North America where it is published by New York University Press. It was originally published in 1990 by Filhem Fink GmbH & Co. Verlags. For more information contact: Cassell PLC. Tel. 44 171 420 5555, Fax. 44 171 240 7261.

Tennis, the History of the European Ball Game, by Roger Morgan. Year: 1995. Level: Advanced. Language: English. This book explains the History of tennis in the Middle Ages. For more information contact: Oxford University Press. Tel: 44 1865 5566767.

Sociology of tennis: Genesis of a crisis (1960-1990), by Anne-Marie Waser. Year: 1995. Level: Advanced. Language: French. This book studies and explains the evolution of tennis practice especially in France and focuses on the crisis of participation during the last years. For more information contact: Editions l'Harmattan. Paris.

VIDEOS

Introduction to tennis. Year: 1992. Level: Beginner. Language: French, German and Italian. Duration: 17 min. This video presents games and exercises with racket and balls to introduce tennis to beginner players. Price: 39.40 S.Fr.

Playing tennis is having fun. Year: 1995. Level: All levels. Language: French, German and Italian. Duration: 11 min. This video outlines how to teach tennis using a games based approach. Teaching tennis by allowing the students to have fun, to improve and to have success. Price: 39.10 S.Fr.

The co-ordination capacity in tennis. Year: 1992. Level: All levels. Language: French, German and Italian. Duration: 20 min. This video presents the training of the co-ordination capacities (differentiation, reaction, balance, orientation and rhythm) applied to tennis by using a series of specific exercises and drills which can be used within the tennis lesson. Price: 42.60 S.Fr.

Tennis: Having success by playing tennis from both sides. Year: 1987. Level: All levels. Language: French and German. Duration: 18 min. This video shows the learning process and the practical applications of bi-lateral tennis according to the Stadler's method, which is based on the principle of learning tennis by playing from both sides and with racquets of different lengths. Price: 40.50 S.Fr.

Footwork in tennis. Year: 1990. Level: All levels. Language: German. Duration: 13 min. This video shows the basic footwork procedures, which will help to achieve an effective and optimal stroke production technique. Price: 35.20 S.Fr.

For more information contact: Federal Sports School of Macolin. ESSM Mediothek – 2532 Magglingen. Tel. 32 27 63 62



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