

The Newsletter for Tennis Coaches

High-Performance Coaching

Taking it to the Next Level: Strength and Conditioning for Tennis

by Scott Riewald, Ph.D., CSCS, Mike Nishihara, MS, CSCS, Michele McCoy, MA, ATC

As you watch tennis today, you can appreciate the level of strength, power, and fitness that players must achieve to succeed in the game. One of the obstacles players face as they try to maintain a consistent strength and conditioning program is the number of weeks they spend traveling away from their “home” training environment. As a result, players “cycle” between gaining strength at home and losing it on the road; they never fully realize their potential as it relates to developing the fitness and power necessary to succeed as a high performance tennis player.

On the Road Training Manual

Recognizing this, the USTA Sport Science Department has developed an *On the Road Training Manual* to help players maintain, and even improve, strength and fitness while on the road or at home. Each of the tennis-specific exercises presented here and in the manual is built on the philosophy of injury prevention and optimizing performance, and provides a detailed exercise description and accompanying photos showing proper technique. Additional strength training, warm-up, and movement drills can be found on the Player Development website (www.playerdevelopment.usta.com) by selecting the **Strength and Conditioning** link under **Sport Science**.

In This Issue

Dear Coach	2
USTA Player Development News	3

Equipment Needs

None of these exercises require expensive strength training equipment. All a player needs is some elastic tubing, a small medicine ball (actual weight will depend on the strength and age of the player), and a few cones—items that can easily be thrown into a tennis bag and brought out on court. Some good websites for purchasing equipment include:

- Perform Better for medicine balls, cones, and ankle bands (www.performbetter.com)
- Isokinetics, Inc. for elastic tubing (www.isokineticsinc.com)

Strength and Conditioning Considerations

As a general guide to help you design your strength and conditioning program, we recommend the following:

1. Always conduct a 10-minute dynamic warm-up (including run-form drills) prior to tennis practice, competition, or strength training. Use the USTA's *Dynamic Tennis Warm-Ups DVD* and/or the warm-up exercises from the manual as a guide.
2. After practice, perform 8-10 movement and agility training drills.
3. Then perform 6-10 of the strength training exercises.
4. Do not train the same body parts/muscle groups on consecutive days. Allow at least 24 hours of rest before working the same muscles again, and even longer (48-72 hours) when training large muscle groups, like the legs.
5. The one exception to this rule is that the core muscles can be trained every day if desired.

Diagonal Repeaters – Movement and Agility Training

Purpose: To provide tennis-specific conditioning and improve all around movement, agility, speed, and footwork.

Technique: Follow the movements in the accompanying diagram.

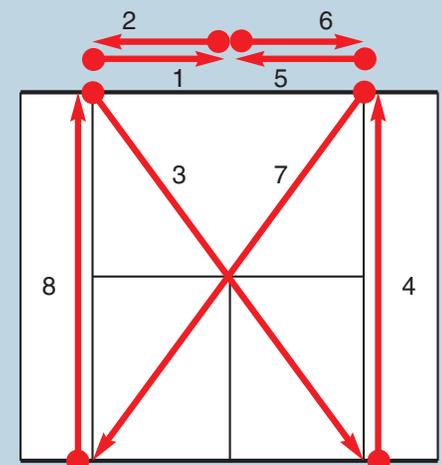
1. Starting at the singles sideline facing the net, shuffle along the baseline to the center mark.
2. Shuffle back to the singles sideline.
3. Sprint diagonally to the net where it meets the other singles sideline.
4. Backpedal to the baseline.
5. Repeat steps 1-4 from this corner of the court.

Duration: Repeat the exercise 2-3 times, with 25 seconds of rest between each.

Cautions:

- Perform this exercise with only 2 players at a time, one on each side of the net.
- Instruct players to stay off their heels when backpedaling to avoid falling. Use the cue “Keep the nose over the toes” to help players maintain proper balance.

continued on page 4



The 2005 US Open provided us with an opportunity to watch the best players in the world display the many skills and attributes needed to succeed at the top of the game. These run the spectrum from technique-based skills to tactical understanding to mental toughness. One area which seemed more in evidence than ever was the players' physical characteristics. Strength, power, speed, quickness, agility, balance, and endurance all were on display during the fortnight. If we are to help our players reach their potential on the court, there needs to be an effort to develop a systematic approach to physical training and conditioning.

In this issue of HPC, you will find six full pages dedicated to providing drills and exercises designed to help your players improve their physical skills and, at the same time, prevent injury. In addition to that article, you will find links to additional strength and conditioning exercises that can be found on the Player Development website, www.playerdevelopment.usta.com.

We hope you enjoy this issue of HPC. If you have any questions or ideas, please feel free to contact us at Coaching@usta.com.

All the best,

Paul Lubbers, Ph.D.

Director, Coaching Education, USTA Player Development

USTA High Performance Coaching Program Update

The USTA Coaching Education Department is accepting applications for the High Performance Coaching Program. This educational program is intended specifically for the coach who is working with players striving for excellence in competitive tennis (i.e., sectional and national ranked junior players to collegiate and young professionals). Applications for the 2006 program dates are available by contacting Bobby Bernstein at 305-365-8711 or e-mailing us at Coaching@USTA.com. We encourage all interested coaches to apply as soon as possible. See page 12 for dates, locations, and application deadlines.

USTA High Performance Coaching Program Attendance

The following list of coaches successfully completed the High Performance Coaching Program at the USTA Training Center in Key Biscayne, Florida. Congratulations to all of the coaches for their hard work and dedication toward helping improve the level of play in the United States. Job well done!

Komi O. Akli <i>Silver Spring, MD</i>	Reagan Crabtree <i>Raleigh, NC</i>	Dan Holman <i>Wilmington, NC</i>	Jessica B. Molda <i>Greenland, NH</i>	Frank E. Salazar <i>Washington, DC</i>
Pablo Arraya <i>Key Biscayne, FL</i>	Bill Dahm <i>Oswego, IL</i>	Geoffrey Jagdfeld <i>Rochester, NY</i>	Jean Nachand <i>Carson, CA</i>	Aki Takayama <i>Forest Hills, NY</i>
Donald Becker <i>Williamsville, NY</i>	Johan Du Randt <i>Waltham, MA</i>	Michael Kypriss <i>Pembroke, FL</i>	Karim Najdi <i>Washington, DC</i>	John Yandell <i>San Francisco, CA</i>
Lorenzo Beltrame <i>Windermere, FL</i>	Simon Gale <i>Stamford, CT</i>	Lori McNeil <i>Key Biscayne, FL</i>	Keely Porter <i>Boonville, IN</i>	
Jim Berrigan <i>Hampstead, NH</i>	Zina Garrison <i>Bowie, MD</i>	Gaurav Malhotra <i>Lutz, FL</i>	Nate Reinhart <i>Brookline, MA</i>	

The Link Between the US Open and USTA Player Development

by E. Paul Roetert, Ph.D., Managing Director of USTA Player Development

With spectacular matches, record crowds, and great weather, there is no doubt the 2005 US Open was a great success. This achievement is linked to the many staff, volunteers, fans, and players that all play a role in making it happen. Our USTA Player Development staff is a vital part of many of the activities and events that surround the US Open. Let's point out some of the highlights of our involvement and why you might want to find out more about them.

US Open Championships

This, of course, is the main event around which everything else revolves. Arlen Kantarian, Chief Executive, Professional Tennis, not only directed a superb event this year, he also controlled the weather (only 20 minutes of rain in the full two-week period). I hope many of you were able to see the excellent tennis being played either in person or on television.

What was our role?

The first role is a bit indirect, yet very important. Our Player Development staff works very closely with the Pro Circuit staff. Together we strategize to plan our 96 Pro Circuit tournaments in the best possible places both on the calendar and geographically. In addition, we group them by level and make sure we have the right number of entry-level, professional events (\$10,000-\$25,000)

as well as the more advanced levels (\$50,000-\$100,000). These tournaments are of major importance as we provide top level international competition within the United States. This allows American players the chance to stay close to home and compete for valuable points towards their ranking with the ultimate hope of qualifying for the US Open.

Our Player Development staff makes wild card decisions in each of these Pro Circuit events. In addition to directing wild card decisions on an ongoing basis and collaborating with the Pro Circuit scheduling throughout the year, some of our staff members also help in the wild card decisions at the US Open. Although wild card recipients are typically not very successful at the US Open, this year proved to be a bit different. Wild card recipient James Blake's run to the quarterfinals was the main highlight; also of note, however, were Scoville Jenkins' and Brian Baker's first round victories on the men's side, as well as Shenay Perry's, Alexa Glatch's and Vania King's victories on the women's side.

King, after receiving a wild card in the qualifying event, not only qualified but also won a round in the main draw. In the doubles draw, the teams of Megan Bradley-Kristi Miller and Ahsha Rolle-Neha Uberoi in the women's tournament and Amer Delic-Jeff Morrison, Scoville Jenkins-Bobby Reynolds, and Alex Kuznetsov-Scott Oudsema were successful in the first round

continued on page 10



Matthew Stockman/Getty Images

Strength and Conditioning for Tennis

Three Cone Touches – Lower Body Strengthening

Purpose: To improve leg strength, dynamic balance, and control over the core of the body and to prevent injuries in the legs.

- Technique:**
- Place three cones about 2 feet apart to form a shallow “V”.
 - Stand in the middle of the “V” about 1-2 feet from the middle cone (Photo 1).
 - Standing on the right (R) leg, perform a one-leg squat, touching the R cone with the R hand (Photo 2).
 - Bend at the knee and try not to bend much at the waist as you touch the cone.
 - Keep the knee in line with the hip and foot, and do not allow the body to fall sideways while performing the exercise.
 - Return to a standing position and repeat the squat motion, this time touching the middle cone with the R hand (Photos 3-4).
 - Stand again and perform another squat, this time touching the left (L) cone with the R hand (Photos 5-6).
 - Repeat this 3-cone sequence 3-5 times with no rest between cycles.

Duration: Repeat the exercise standing on the L leg and touching the cones with the L hand.

Variations: Mix up the hand-leg combinations (R-R, R-L, L-L, L-R) to develop greater balance and strength.



Photos by Scott Riewald

Strength and Conditioning for Tennis

Split Step Lunge with a Twist – Lower Body Strengthening

Purpose: To improve lower body strength/power, dynamic balance, and core strength.

- Technique:**
- Starting at the doubles sideline in a standing position, hold a medicine ball in front of the body (Photo 1).
 - After making a split step (Photo 2), step forward with the right (R) leg into a lunge (Photo 3).
 - In the “lunge position,” rotate the body 90 degrees to the left (L) while holding the medicine ball away from the body (Photo 4).
 - Rotate back to the front-facing position (Photo 5) before stepping forward into a standing position (Photo 6).
 - Repeat this series of movements, alternating lunging with the R and L legs, until you reach the other doubles sideline.

Note: Always rotate to the side opposite the leg you lunge with.

Duration: Lunge from the baseline to the net 1-2 times, taking 30 seconds rest between sets.

- Cautions:**
- Do not perform this, or any, exercise if it causes knee pain.
 - Do not let the knee come past the toes when performing the lunge. This places added stress on the knee.
 - Before puberty, players should use a 3-6 pound medicine ball. Older players can use medicine balls weighing 8-12 pounds.



Photos by Scott Riewatt

Quadruped Exercise – Core Strengthening

Purpose: To improve strength and control of the core muscles, particularly in the lower back.

Technique:

- Lay a towel or mat on the court and get down on your hands and knees (Photo 1).
- Tighten your abdominal and lower back muscles by drawing the belly-button in toward the spine (Photo 1).
- While keeping a “flat back,” lift the right arm and left leg until they are parallel to the ground (Photo 2).
- Keep the head in line with the spine by looking down during the exercise.
- Return to the starting position and repeat while lifting the left (L) arm and right (R) leg (Photo 3).

Duration: Perform 2 sets of 15 cycles (both sides) of this exercise.



Photos by Scott Riewald

Medicine Ball Throws – Core Strengthening

Purpose: To develop explosive power using the core of the body and the legs.

Technique: • In an open stance, stand about 3 feet away from a wall or other hard surface.

- Facing the wall, hold a medicine ball in both hands (Photo 1).
- Load the legs and rotate the torso as you prepare to throw the ball (Photo 2).
- Explode with the legs and the core as you throw the medicine ball into the wall (Photo 3).
- Catch the medicine ball on the rebound and immediately load the legs and rotate the hips and torso to get set for another repetition (Photo 4).

Duration: Perform 2 sets of 15 throws from the forehand side and another 2 sets from the backhand side.

Variations: This exercise can be performed using either an open or square stance.



Photos by Scott Riewald

Standing External Rotation – Upper Body Strengthening

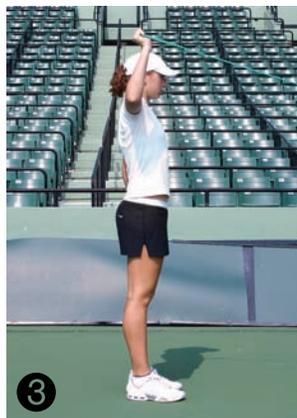
Purpose: To strengthen the rotator cuff, particularly in dominant arm. Use for injury prevention and to help control the arm deceleration after a serve or forehand.

Technique:

- Attach a piece of elastic tubing/band to a secure location—like a fence or the net post—at waist level.
- To strengthen the right (R) shoulder, stand with the left (L) shoulder closest to the fence (Photo 1).
- Bending the R elbow 90 degrees, grab the tubing so the R forearm lies across the body.
- Step away from the fence until a slight tension is felt in the band.
- Rotate the shoulder 90 degrees so that the forearm and hand move away from the body and point forward (Photo 2).

Duration: Perform 1-3 sets of 15-20 repetitions of this exercise.

Variations: Stand facing the net with the upper arm parallel to the ground and the elbow bent 90 degrees. Externally rotate the shoulder until the hand points to the sky—making sure to keep the upper arm parallel to the ground throughout the movement (Photos 3-4).



Core Rowing – Upper Body Strengthening

Purpose: To improve strength in the upper back muscles and develop core strength and balance.

Technique:

- Attach a piece of elastic tubing/band to a fence at about waist level.
- Grab one end of the tubing and move backwards from the fence, until tension is felt in the band when the arm is straight (Photo 1).
- Set the body in athletic position and contract the core to maintain a good athletic position throughout the exercise.
- Pull the tubing back, bending the arm until the hand is near the side of the body, even with the chest (Photo 2).
- Return to the starting position while keeping the movement under control (Photo 3).

Duration: Perform 1-3 sets of 15-20 repetitions with each arm.

Variations: To make the exercise easier, loop the band through the fence and perform the movements with both arms at the same time. This requires less dynamic balance.



Photos by Scott Riewald

Strength and Conditioning for Tennis

Alley Drills – Movement and Agility Training

Purpose: To provide tennis-specific conditioning that will improve lateral movement, agility, and footwork.

Technique: • Start outside the doubles alley facing the net (Photo 1).

- Shuffle (side step) into the court until both feet are over the singles sideline (Photos 2-3).
- Quickly reverse direction and shuffle in the other direction until both feet cross the doubles sideline (Photo 4).
- Continue this for 10-20 seconds.

Duration: Repeat the exercise 2-3 times, with 25 seconds of rest between each.

Variations: • This exercise can also be performed without the racket.

- The player can turn 90 degrees and perform the exercise moving forward and backwards across the doubles alley.

Cautions: • Instruct players to stay off their heels when backpedaling to avoid falling.

- Use the cue “Keep the nose over the toes” to help players maintain proper balance.



Photos by Scott Fiewald

The Link Between the US Open and USTA Player Development

after receiving a wild card. The exciting part is that most of these players are young and have a bright tennis future ahead of them.

What is your role?

The US Open is the tournament that funds virtually all of the activities of the USTA. National programs as well as sectional events rely on the income of the US Open. Therefore, it is in all of our best interests to support the US Open and also the US Open Series. The US Open Series is quickly growing in importance as a promotional vehicle for tennis in general in the United States and as a “regular season” lead up to the “play-offs,” the US Open. If one of these events is held near you, consider renting a bus and taking a group of club members or other local tennis enthusiasts to one of these tournaments. Of course when you do come, support the American players. If you don’t live near one of these events, you can stage “viewing parties” for your students. The television schedule of all the US Open Series events is posted on usta.com and features live finals each weekend of the summer.

US Open Junior Championships

The US Open Junior Championships are held during the second week of the US Open. The qualifying event is played over two

days with a 32-player draw (we are the only Grand Slam tournament that hosts the qualifying event on the same site as the main draw) and is followed by a 64-player main draw. Since this is an ITF event, entry into the tournament is by ITF ranking. Players with a high ATP/WTA ranking also receive consideration.

What was our role?

The US Open Junior Championships is one of three major ITF tournaments completely organized and run by our Player Development staff. This entails everything from communication with the various federations, to making hotel arrangements, to player entries, to running the actual event. Most of our staff play some role in this event. Of course the USTA coaching staff has been busy all year supporting our American players and guiding them to play the right tournaments in preparation for the US Open Juniors. This paid off in a number of successes. Alexa Glatch made it to the final of the girls’ event where she lost to the very talented Victoria Azarenka of Belarus. Glatch also teamed with Vania King to get to the doubles final. In addition, Elizabeth Plotkin also had a great tournament by beating the No. 2 seeded player and reaching the quarterfinals. On the boys’ side, both Donald Young and Timothy Smyczek reached the quarterfinals in singles, while Alex Clayton teamed with Young to win the doubles.

What is your role?

The talented players in this event are the future players in the main draw of the US Open. The more opportunities we can provide to American players, the more they learn to compete against the best. The competition internationally gets tougher and tougher each year. Therefore, we rely on you as the personal coaches of these young players to give them a good foundation technically and tactically. In addition, you can help them schedule the right events and make sure they play at the right level throughout their development.

Tennis Teachers Conference

The USTA Tennis Teachers Conference brings together approximately 750 coaches from around the country to learn the latest tennis coaching, teaching, and business techniques. Part of the attraction of this event is that it is held in conjunction with the US Open. In fact, some of the on-court presentations are typically held at the tournament site.

What was our role?

The Community Tennis Division takes the lead in running this excellent event, so our role is mostly a supportive one. We have a number of Player Development staff members who help with the organization of the event as well as speaker recommendation and selection. In addition, we make available coaches and other staff members as speakers themselves.



Vania King

Lance Jeffrey

What is your role?

As a coach or teaching professional, one of your most important roles is that of continuing education. The Tennis Teachers Conference provides a great opportunity to do just that. You can hear some great speakers and attend the greatest tennis tournament in the world. If you have an interest in sharing your knowledge by speaking, proposals are always welcome. If you've never attended this event, consider doing so next year.

Coaching Education Program

This program has grown quite a bit over the past few years. Luckily, you're reading this newsletter right now. That means you are interested in coaching education. Hopefully, you enjoy the articles in this newsletter. In addition to the newsletters, we organize workshops and training sessions and find other means to provide educational materials (books, videos, CDs, websites, etc.). One of those coaching education programs was held during the US Open. In fact, for the past few years, we have had a reciprocal coaching education program with the Lawn Tennis Association at Wimbledon.

What was our role?

Throughout the year, we run a series of week-long coaching education programs. Although these programs are educational and helpful to those who attend, we see an even greater value in the continuing education component. At this year's US Open (and in previous years), we were able to bring together a group of 24 coaches to analyze and evaluate matches and hear the latest techniques, tactics, and strategies from some of the best coaches in the world.

What is your role?

As I mentioned earlier, one of the most important things you can do to improve yourself is attend a conference or workshop specific to the coaching profession. These USTA Coaching Education programs are structured so they are very interactive. In other words, we all learn from each other. Please consider attending one of these events. I think you will find it well worth your while (see back page for future dates).

Semi-Annual Meeting

The USTA Semi-Annual meeting is held during the second week of the US Open. Most of the staff members, as well as volunteers, attend quite a number of committee meetings to help set the course for the next six months and beyond.

What was our role?

Many of our Player Development staff members are involved in the various committee meetings. We help organize meetings related to High Performance, Sport Science, and Youth Competition and Training, and we also have a significant involvement



2005 US Open Boys' Doubles champions Alex Clayton and Donald Young.

in meetings such as Collegiate, Pro Circuit, and many others. Many important topics are discussed. As an example, this year the topic of promoting doubles play—especially at the younger ages—was a hot topic of discussion.

What is your role?

Not everyone can attend meetings in New York. However, you might consider getting involved at the sectional level as a volunteer. Is there a topic you are particularly interested in or concerned about? Become part of the solution and join a district, sectional, or national committee. In addition, there are many ways to get involved at the district level or with a Community Tennis Program. Help us grow the game of tennis; it ultimately helps all of us.

As you can see, a lot happens during the two weeks of the US Open. Some is quite visible but much happens behind the scenes. Our Player Development staff, although fairly small, played a key role in making many of the events happen during the US Open. I hope you also feel that you play a part in making all these things happen. If not, call your section and get involved.



UNITED STATES TENNIS ASSOCIATION

USTA Player Development
7310 Crandon Boulevard
Key Biscayne, FL 33149

Presorted
Standard
US Postage
PAID
Boston MA
Permit No. 54162

High-Performance *Coaching*

Published Quarterly By

USTA Coaching
Education Department
7310 Crandon Boulevard
Key Biscayne, Florida 33149
305-365-8782

www.playerdevelopment.usta.com

Editor
Paul Lubbers, Ph.D.

Editorial Consultant
Mark Preston

USTA Staff
Bobby Bernstein
Scott Riewald, Ph.D.

© United States Tennis Association

Designed and produced by
H. ZIMMAN, Inc.
Seaport Landing, 152 The Lynnway
Lynn, Massachusetts 01902
781-598-9230 / e-mail: info@hozinc.com

USTA High Performance Coaching Program Dates

Program Dates for 2005-2006

Date	Location	Application Deadline
January 7-12, 2006	Key Biscayne, Florida	October 15, 2005
May 16-21, 2006	Boston, Massachusetts	February 16, 2006

Applications for the above program dates are available
by contacting 305-365-USTA or e-mailing us at
Coaching@USTA.com. We encourage all interested
coaches to apply as soon as possible.