



Let's Get PHYSICAL

An adequate level of fitness is essential in enhancing tennis performance.

SARAH MORANTE examines the elements that must be considered in the process.

How many times has a tennis match been referred to as "a battle of attrition"? So often it is the player with the greatest level of fitness who emerges the winner after a long, tough match. All players should incorporate additional physical conditioning into their on-court training program. However, given the complexity of skills and fitness components involved in tennis, it is essential to design a specific program that is both effective and efficient.

Most tennis coaches are fully aware of the importance of fitness in tennis and integrate this into their training plan. Even so, many coaches include exercises that are not specific to the characteristics and demands of tennis, and consequently players do not improve at the expected rate.

Often coaches choose to outsource fitness specialists to manage this area of training. When doing this, it is important to ensure the instructor has a thorough understanding of the specific fitness requirements of tennis. The following information is designed to assist in developing a physical conditioning program that will improve tennis performance.

Characteristics of Tennis

Unlike sports with time restrictions on play such as soccer and netball, a tennis match may be complete within an hour or may last a number of hours. Research has shown that the actual amount of time spent in play during a match is only around 20%, which equates to only 18 minutes in a 1.5 hour match.

Despite this, the overall intensity of tennis is relatively high. Points have been shown to last an average of eight seconds, where players must respond to a series of continual "emergencies" using their endurance, speed, agility, power, strength, flexibility, co-ordination, reaction time and balance. Therefore, training programs must include these elements in order to improve tennis performance.

Fitness Assessment

It is essential that a fitness program is based on the characteristics and demands of the sport. Before designing a fitness program it is recommended that a fitness assessment is completed, using a battery of tennis-specific tests (e.g. Five minute shuttle run for agility, vertical jump for power and sit-and-reach for flexibility). Reasons to perform an initial assessment and regular follow-up assessments throughout a program include:

- Establishing baseline scores for each fitness component.
- Identifying areas of particular strength and weakness for the design of an individualized program.
- Setting challenging yet achievable goals based on initial results, providing motivation and a reward to train.



- Monitoring each test score over time to ensure the type of training and the load are adequate to improve each fitness component.

Tennis-Specific Conditioning Exercises

It is essential that a fitness program is based on the characteristics and demands of the sport. Since tennis involves each of the fitness components, training must include exercises that work each of these areas. If using a fitness specialist, clear communication is required between the coach and trainer to

make certain the program is tailored to tennis and the individual player. Below are some examples of types of training that may be incorporated:

- **Endurance:** circuit training - perform a set of around eight different tennis-specific exercises (e.g. skipping, walking lunges, ball pick up drill, sit ups, sprints, medicine ball passes, wobble board and back extensions, with a recovery period between each).
- **Speed:** hill training - running uphill builds strength while running downhill increases speed, stride length and stride frequency.
- **Agility:** ball pick up drills or cross-training using sports with similar movements (e.g. basketball, netball, touch football).
- **Power:** lower body - double and single leg jumping over markers/mini hurdles/ropes, upper body - medicine ball throws.
- **Strength:** resistance training using machines, free weights, own body weight, elastic bands or a Swiss ball.
- **Flexibility:** regular stretching of muscles and joints used in tennis, yoga, pilates, massage.
- **Reaction time:** throwing and catching drills, returning balls fed hard from closer to the net, reflex volleys.
- **Balance:** wobble board, five minute sprint or five tuck jumps followed by balancing on one leg.

In order for these activities to more closely correlate with tennis, the intensity should be above 75% of the player's maximum heart rate. Maximum heart rate can be estimated by subtracting the player's age from 220, from which percentages can be calculated. For example, if a player is 25 years old, their maximum heart rate is 195 and 75% of this is 146 beats per minute.

The time spent performing each exercise should be similar to the duration of points (approximately 10-30 seconds). After each bout of work, a recovery period lasting no more than 30 seconds should be provided as is the case in a tennis match.

The combination of exercise intensity and work to rest ratio develops the correct combination of the aerobic and anaerobic energy systems for optimal tennis performance.

Ask the Coach

I love playing tennis and play three or four times a week in a mixed night comp, mid zoeek women and VTS pennant. Except for my 5-7 singles matches in pennant all my matches are doubles. I'm nozo realising the importance of playing doubles at the net, but my smash is letting me down. Can you help?

Karen, MT WAVERLEY

Karen, the overhead smash has similar technical features to the serve. However unlike the serve the ball is in play within the rally and the smash becomes part of the point. Your reception skills form a critical part of your preparation to produce an effective smash.

Try these suggestions:

- Track the ball early - you must watch and determine the trajectory and speed of the oncoming ball
- Improve your foot movement to gain the best hitting position (contact). This includes a final step backwards with the right leg



Rest

Rest is a critical element of any exercise program. Only during the rest period do the adaptations to training take place. Therefore, without adequate recovery time, the time and energy spent during training will go to waste. Furthermore, insufficient rest will result in constant fatigue and muscle soreness, frequent colds, a high resting heart rate - the symptoms of overtraining or burnout.

Consequently, an effective program successfully balances rest and recovery time with the training load, which comprises the frequency, duration and intensity of training.

Methods to facilitate recovery may include passive rest where the player performs no exercise whatsoever, or active rest which may include cross-training to allow repair of the muscles strained by tennis.

Using this information, it is hoped that coaches become better equipped to assess a player's fitness and design a tennis-specific conditioning program. Alternatively, coaches can insist that the trainers they employ are fully aware of the fitness requirements of tennis.

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and then many side-shuffling steps.

- You must be in a side on position for an effective smash.
- Work on your timing and racquet and ball alignment to achieve the best hitting position (contact)
- Make an effort to begin the upward swing a little earlier until an adequate contact height is attained.
- The left arm should be partially or completely extended and elevated to "point at the ball" during preparation. This is important to assist with tracking the ball and for your balance.
- Be patient, as timing of the racquet and ball for contact is difficult for the smash because of the influence of gravity to accelerate the ball towards contact point.

Karen, I assume you use the continental grip for your serve and smash. It is very difficult to smash effectively using any other grip. If not you should contact a TCA Advanced coach and book a lesson.