



Philip Bayliss

St Albans Osteopathy

43 Thames Street, St Albans, Christchurch 8013
Phone: (03) 356 1353. Website: philip-bayliss.com

Tennis Stretches and Flexibility Exercises

The origins of tennis date back at least to the Middle Ages, if not earlier. It appears to be related an ancient Greek game known as sphairistike. Tennis was a popular pastime among European monks and was played in various forms at monasteries throughout the Europe, (though at one point, the church sought to ban the game).



The equipment and rules for tennis were formalized and patented much later (February 23, 1874, to be exact), by Major Walter C Wingfield, this version being close in its details to modern tennis. Soon, tennis courts began appearing throughout the United States and within a year, equipment for tennis began to spread beyond the U.S. as well.

The first official tennis tournament was held at Wimbledon in 1877. By the 1930's, tennis was a highly popular and stylish sport.

Tennis is either played between two players (singles) or two teams of two players (doubles). A tennis racket featuring a stringed grid is used to strike a felt-covered rubber ball over a net into the opponent's court, within boundary lines which are marked on each player's court. Tennis rules remain largely unchanged since the 1890s, (though a method of tie-breaking was introduced in the 1970s).

The sport is played on a rectangular, flat surface, which may be grass, clay, or a hard court of concrete or asphalt. The singles court is 78 feet in length, and 27 feet width. Doubles matches use 36 foot boundary markers for the court width. The tennis net is stretched across the entire width of the court, parallel with the baselines. A tennis match is generally played in one to five sets, each set consisting of games. Each game is made up of points, with players alternating the serve across the net, after each game. A game is won by the first player to have scored at least four points against his or her opponent, (though the winning player's score must exceed his opponent's by at least two points).

The set is awarded to the first player to win six games and win by at least two games and match victory generally requires winning 3 out of 5 sets. Along with millions of recreational tennis players, huge audiences follow tennis as a spectator sport, particularly the four annual Grand Slam tournaments.

Anatomy Involved

Tennis is a fast-paced sport making extensive use of both upper and lower body anatomy. The game emphasizes hand-eye coordination, spatial awareness and keen agility. Cardiovascular endurance is required for competitive play, and tennis places significant demands on the musculoskeletal system, most particularly, the legs, midsection, upper body, and arms.

Muscles requiring extensive use (and therefore, conditioning) include:

- Leg Muscles, particularly the quadriceps, hamstring and gluteus muscles as well as gastrocnemius and soleus muscles of the lower leg
- Chest and upper body muscles, particularly, the pectoralis major, latissimus dorsi and deltoid muscles of the torso
- Shoulder and arm muscles, including the rotator cuff, shoulder adductor, and biceps and triceps muscles of the racket arm, as well as the rotator muscles: teres minor and infraspinatus and subscapularis muscles.
- Muscles of the wrist and hand, used during the tennis swing
- Lower back muscles, particularly the Spinal Erectors

- Abdominal muscles including the Rectus Abdominis, right internal and left external obliques
- Neck muscles, in particular the Neck Flexor and Extensor muscles

Strength training and flexibility exercises targeting all of the above areas are essential for competitive players.

Most Common Tennis Injuries



Tennis players are subject to a range of injuries, falling into the broad categories of acute and overuse. Due to the considerable requirements of the sport in terms of hand-eye coordination, cardiovascular endurance and complex musculoskeletal participation and flexibility, a range of conditioning exercises is recommended.

Among the more common afflictions plaguing tennis players are rotator cuff tendonitis, tennis elbow, strains or sprains of the wrist, back pain, anterior (front) knee pain frequently involving the knee cap, calf and Achilles tendon injuries, ankle sprains, and tennis toe.

- Rotator cuff tendonitis: This overuse injury affects the muscles and tendons originating from the shoulder blade or scapula, attaching to the upper arm bone or humerus. A wide range of movement in the shoulder is provided by these muscles and tendons, which are prone to becoming inflamed from overuse. In recreational tennis players, rotator cuff tendonitis commonly results from excessive overhead serving. The condition may be effectively treated with ice, rest and nonsteroidal anti-inflammatory drugs (NSAIDs), for example, ibuprofen. Should the condition persist beyond a week or so, a physician should be consulted.
- Tennis elbow, or lateral humeral epicondylitis: This painful injury is due to inflammation or small tears of the forearm muscles and tendons on the lateral side of the elbow. Overloading of the forearm muscles, often due to faulty backhand technique, especially overemphasizing the wrist, can cause the affliction. Tennis elbow is typically treated with rest, ice, compression, and

elevation (RICE) as well as NSAIDs. Should the condition become chronic, surgery may be required.

- **Back pain:** This condition often results from improper technique, particularly an exaggeratedly arched, or swaybacked posture during execution of the serve. Such exaggerated postures cause stress to the small joints and soft tissues of the spine, a situation more critical in older players, who may develop progressive stiffness and arthritis. Rest and standard anti-inflammatories and analgesics are usually recommended.
- **Knee pain:** Pain to the anterior portion or front of the knee is the most common. This is either caused by chondromalacia (a softening of the cartilage) of the knee cap or patella or tendonitis, usually at the patellar tendon. The injury is more common in professional players or elite recreational players as it tends to result from springing up from the knee during the serve. Treatment of acute anterior knee pain usually requires a RICE regimen, complemented with NSAIDs. Physical therapy for knee strengthening may also be advised.
- **Calf and Achilles tendon injuries:** Tendons and muscles of the calf or Achilles can result from an overload from pushing off with the foot while the leg is fully extended. Overuse of the tendon can produce Achilles tendonitis, involving painful inflammation. In severe cases, the Achilles tendon can rupture, producing a sudden snap. The injury requires casting and sometimes surgery. Tearing of calf muscles is also common, requiring RICE treatment and avoidance of athletic activity.
- **Ankle sprains:** Most commonly, the outer ligaments of the ankle become sprained. Standard treatment involves RICE for 24 to 36 hours, after which the ankle should be supported with bracing to avoid re-sprain. Severe bruising or excessive swelling following a sprain should receive prompt medical attention.
- **Tennis toe:** This injury results from the toes being too tightly jammed against the toebox of the shoe, especially during abrupt starts and stops. The condition is actually a haemorrhage under the toenail, often causing considerable pain. The toenail may need to be drilled through by a physician in order to release pressure.

Injury Prevention Strategies

Thorough conditioning and proper technique are both essential in helping to prevent tennis injuries. Keep the following points in mind:

- Training in agility can help prevent loss of balance and sudden, traumatic stress to muscles, joints and tendons
- A two-handed backhand reduces stress on the muscles attaching to the lateral epicondyle of the humerus, helping to prevent tennis elbow
- Proper racquet selection and grip size are critical in preventing tennis elbow and other injuries related to improper technique. Smaller racquet heads or excessive string tightness place more stress on forearm muscles, which can lead to tennis elbow.
- Stiffer graphite-type racquets with larger heads offer an enhanced "sweet spot," causing less muscle stress
- Flexibility and strength training should be undertaken to avoid both overuse and traumatic injuries, especially among those who play the game more than twice a week

The Top 3 Tennis Stretches

Below are 3 of the most beneficial stretches for tennis. Obviously there are a lot more, but these are a great place to start. Please make special note of the instructions beside each stretch.



Rotating Wrist

Stretch: Place one arm straight out in front and parallel to the ground. Rotate your wrist down and outwards and then use your other hand to further rotate your

hand upwards.

Assisted Reverse

Chest Stretch: Stand upright with your back towards a table or bench and place your hands on the edge. Bend your arms and slowly lower your entire body.



Kneeling Heel-down

Achilles Stretch: Kneel on one foot and place your body weight over your knee. Keep your heel on the ground and lean forward.

