

Stretching

As youth leagues get under way, coaches often realize how much little time they have to prepare their teams for competition. As coaches, we often struggle to find the right balance of practicing skill development and player conditioning. Though a majority of children's muscles are more limber, many injuries that occur during sports participation are easily avoidable muscle strains. By providing a basic warm-up and stretching routine before and after practice, a coach can help promote flexibility and prevent common injuries.

The purpose of stretching and the warm up is to improve flexibility and maintain range of motion while increasing core body temperature. Many recent studies have compared the dynamic warm-up to the common static stretching routine and found that dynamic warm up is more beneficial and consistent with raising and maintaining an increased body temperature. Static stretching will decrease the heart rate and the body temperature will usually return to normal within a few minutes. It has thus been recommended that a dynamic warm-up be used before a game and a static stretch be used when cooling down after competition.

DYNAMIC WARM-UP

A dynamic warm up is a variety of functional drills to put every major muscle group and joint through a full range of motion to prepare the body for activity. It raises core body temperature, increases blood flow to the muscles and improves flexibility, balance, and coordination all in about five to fifteen minutes.

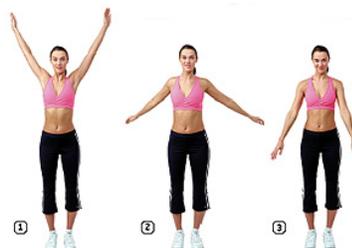
- Scorpion –



Lie face down on the ground with arms extended out to the sides, palms facing down, so your body forms a 'T' Shape. Maintaining this facedown position and keeping your shoulder towards your right hand in a reverse twisting motion. Repeat on the other leg.

- Jogging with Arm Circles –

Swing the arms forward in large circles as you jog at a moderate pace from sideline to sideline. Perform back and forth across the court twice.



○ Side Step with Arm Crosses –



Lift the arms to shoulder height and extend them out to the side. Get into an athletic stance. Knees and hips flexed with the torso upright and facing forward. While shuffling across the court, swing the arms across the body like you are hugging yourself. Swing the arms back to the starting position, until you feel a slight stretch in the shoulders. Be sure to perform going to the right and to the left.

○ Knee Hug Lunge –

Lift the knee and pull the knee with the arms towards the chest. At the same time, contact the calf of the leg on the ground, going up on your toes and lifting the body up. Release the leg and take a large step forward directly into a lunge stretch position. Maintain good upper body posture and hold this position for 2-3 seconds. Stand up, driving upward using the muscles in the forward leg, and repeat the movement with the other leg. Continue this pattern, alternating right and left legs.



Inverted Hamstring –



Facing out from the court, stand on one leg and bend at the waist. Keep the leg on the ground slightly bent. Bend forward at the waist until a slight stretch is felt in the hamstrings of the leg that is on the ground. Keep the back flat and avoid twisting. The leg off the ground should follow the line of the body. Hold position for 2-3 seconds. Return to the starting position, but step back slightly when you put the foot down. Repeat with the other leg and gradually walk across the court to the other sideline.

- Backward Lunge with a Twist –
 - Take a large step backwards with the right leg into a lunge position. Gently twist the torso to the left and reach for the right heel with the left hand. Return the torso to a position of good posture in the lunge position. Stand up by driving using primarily the muscles in the front leg and repeat, stepping backwards with the left leg and progress across the court.
- Leg Cradle –



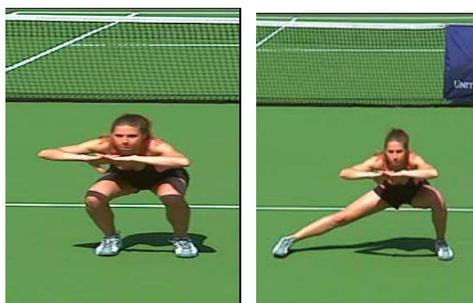
While on one leg, lift the other leg and with the assistance of both hands, turn the knee outwards while lifting at the ankle. Cradle the leg at the knee and at the ankle. Do not grab the foot if you can help it. At the same time, contract the calf of the leg on the ground, lifting the body up. Release the leg, step forward and repeat on the other leg making your way across the field.

Straight Leg March –

Swing one leg forward until you feel a slight stretch in the hamstrings. Try to touch the foot with the opposite hand. As soon as the stretch is felt, pull the leg back down to the ground, contracting the gluteals. The foot should contact the ground forcefully on the front part of the foot. Maintain good posture throughout the exercise. Repeat with the other leg, making your way across the court.

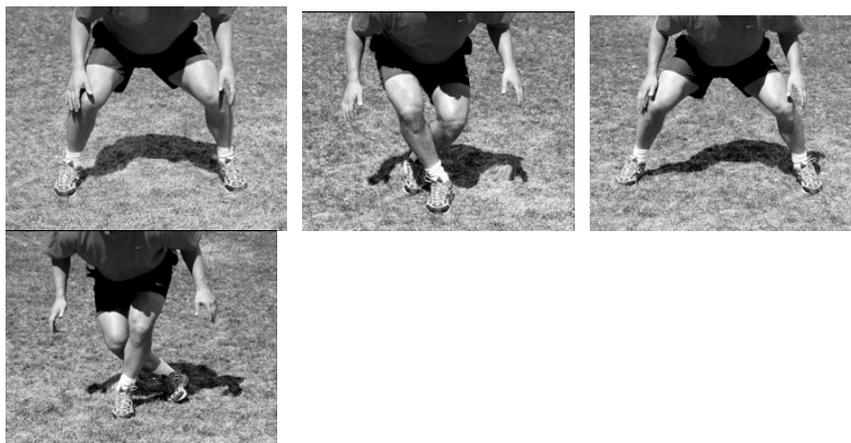


o Lateral Lunge –



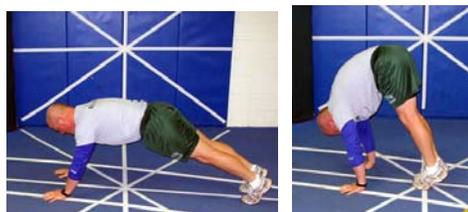
Take a large step sideways into the field, Bend the knee of the leg in the court, and keep the other leg straight. Lower the body until there is a slight stretch in the groin. Hold for 2-3 seconds. Return to an athletic stance by bringing the trailing “straight leg”, back under the body. Repeat this movement across the court to the other double sideline.

○ Carioca Drill –



In the athletic position, push off with the left foot and bring it towards the right. While maintaining balance, cross the left foot behind the right foot and plant it on the ground. Move the right foot laterally so you return to the athletic position. While maintaining balance, cross the left foot in front of the right foot and plant it on the ground. Move the right foot laterally so you return to the athletic position. Reverse the steps to perform this drill while moving to the left.

○ Inchworm –



From a push-up position on the ground, walk your feet close to your hands while keeping the legs as straight as possible. Return to a starting position and continue to repeat for your marked distance.

○ Backwards Step Over –

Lift a knee up. Rotate it at the hip outwards. Step backwards as if you are trying to clear a hurdle, and place the foot down so it is facing forwards. Repeat with the other leg and work your way across the court.



○ Butt kicks –



Keep your thighs perpendicular to the ground while kicking your heels up towards your backside. Move fast and keep ankles, knees, hips, and shoulders in alignment.

EQUIPMENT –

Shoes

Tennis is all about balance. You have to maintain good balance when you swing. Few people think enough about the balance in the shoes and feet while controlling shots or serving a ball. It is indeed critical that our footwear be properly matched to the anatomy of your feet and the surface you play on. Improperly fitting shoes can lead to blisters, ankle and knee pain, and loss of movement on the court. When your shoes and feet feel good, you will feel good and play your best tennis.

The first step in finding the right shoe is to figure out what type of foot you have. While only a podiatrist can truly give you a full and accurate analysis of your foot type, you can evaluate your foot type by looking at your footprint. If you see a crescent-shaped footprint with little or no impression made by your arch, your foot is supinated. Supinators tend to wear out the outside part of the bottom of their shoes. Supinators also tend to have wide feet and need to look for a shoe that provides extra room in the forefoot and toe box. They may also need a shoe with extra cushioning to compensate for their high arches.

If your foot leaves a wet mark on the floor that is completely filled in, arch and all your foot is most likely pronated. Pronators often have flat feet, and the medial portion of their shoe bottom wears down before the lateral part. People with this foot type often need extra support from their shoes so a mid cut model or a shoe with extra stability on the medial side is usually a wise choice.

If your footprint has a moderate amount of arch, you have a neutral foot. This is the most efficient and versatile foot biomechanically. Players with neutral feet can play tennis in almost any shoe.

When finding a shoe to fit your proper foot type, it is important to consider four areas: the upper shoe, the insole, midsole, and outsole

The upper shoe is the top portion of the shoe and is usually made of leather, or a combination of materials. If you need extra support, look for lacing systems that thread into reinforcements going down the sides of the shoe; they will provide added stability. When trying on the shoes, be sure the leather and laces are comfortable against the top of your foot and is not too tight.

The insole is the portion of the shoe that your foot rests on, and it is the least technical part of the operation. If you have or have had foot problems or wear orthotics, check to see if the insole is removable. In most cases it will be, allowing you to replace a worn out insole with an over-the-counter one that provides extra cushioning.

Midsoles are the section of the shoe that lies between the shoe bottom and the insole. It is generally made from ethyl vinyl acetate foam or polyurethane and in many cases is supplemented by air or gel inserts. This supplies a shoe's cushioning. Typically, a midsole may break down in about five to six months. Frequent players will go through midsoles more quickly due to the pounding they give on their shoes.

An outsole is where the rubber meets the road on the shoe. The outsole is designed to provide traction on the court. Herringbone designs form a tight wave-like pattern and perform best on clay, while outsoles with the most variation in the give the best traction on hard courts. Outsoles should also be durable enough to stand up to your style of the game. If you play often or wear out shoes quickly, look for heavy-duty outsoles.

Some other tips for finding a good pair of tennis shoes:

- Buy shoes after you play tennis or late in the afternoon. (Feet tend to swell by the end of the day) Be sure to bring the same kind of socks you wear to a match so that you can accurately gauge what size shoe you need.
- The length and width of each foot should be measured before you buy anything. It is not uncommon for people to have one foot larger than the other. In this case, buy a pair of shoes to fit the larger foot.
- Bring your old shoes. The wear on your used pair will help you and the salesperson determine how much support, cushioning, and durability you need.
- Based on your foot type, support needs, and style preferences, your fitter should be able to recommend at least two or three different pairs of shoes to try.

Common injuries in Tennis

Tennis is a complex physical sport requiring hand-eye coordination and full body participation to run, position, swing, and hit. Because of these demands, endurance, flexibility, and muscle-conditioning exercises are important to prevent injuries. Some tennis injuries may be random occurrences. However, most can be minimized or prevented entirely by proper conditioning, proper technique, appropriate equipment, and seeking medical attention for persistent, painful condition in a timely fashion. The most common injuries associated with tennis are rotator cuff and biceps tendonitis, tennis elbow, wrist stains, back pain, anterior knee pain, calf and Achilles tendon injuries, ankle sprains, and tennis toe.

The rotator cuff consists of muscles and tendons that originate from the shoulder blade and attach to the upper arm bone. These muscles allow the shoulder to move in all directions. Because of repetitive overhead serving, you can develop tendonitis or inflammation of the tendons. Changing your technique to increase the angle between your arm and side to more than 90 degrees may help to lessen the chance of injury to the rotator cuff.

Treatment for this overuse injury is rest, ice, and correctly using anti-inflammatory medication like Advil. If symptoms persist after 7 to 10 days, a physician should be seen.

Tennis elbow, or lateral humeral epicondylitis, is a painful condition caused by inflammation or small tears in the forearm muscles and tendons on the outside of the elbow. Tennis elbow is typically caused by overloading of the forearm muscles due to poor backhand technique or weak wrist extensor muscles.

The treatment of tennis elbow involves rest, ice, compression, and elevation and use of NSAIDS. This condition can become chronic if not cared for properly. Decreasing playing time, counterforce braces, and rehabilitation programs may also help alleviate some pain and symptoms.

Back pain in tennis seems to be related to an exaggerated archer, or swaybacked, posture used for power production during service strokes. This exaggerated position stresses the small joints and soft tissues of the spine. Older tennis players seem to have back pain due to progressive stiffness and degenerative disease such as arthritis. A conditioning program designed to strengthen abdominal and back muscles and to increase flexibility can minimize back pain associated with tennis.

Anterior knee pain is also a common problem in tennis players this is typically due to softening of the cartilage of the patella or patellar tendonitis. This is usually a result of the repetitive spring up action of the knees on the serve. Treatment of knee pain involves the usual RICE, but a knee-strengthening program to increase the strength in the quads, hamstrings, and calf muscles is commonly recommended.

Sprain of the outer ligaments of the ankle are common in tennis. You can minimize the risk by selecting shoes that are specifically designed for tennis and that have substantial support built into the outer counter of the shoe. The most effective treatment for ankle sprains is the usual RICE followed by appropriate additive support to the ankle such as an air cast or ankle brace.

Helpful web sites for tennis:

www.tennis.com

www.usta.com