



PROfiles: Tennis Questions and Answers

What are some common problems in tennis players?

In general tennis players are "type A" people. They require a great deal of aggressive physical activity to "release the tension" they feel builds up. I have found very few Tennis types that would love to do Yoga or Tai Chi. They would rather take a Spinning class or Aerobics, some thing that gets them moving at a fast pace. This "profile" of activity preferences sets up the tennis player for certain types of injuries. The regular player has a propensity for repetitive motion type injuries like Tendonitis and chronic muscle tension problems whereas the occasional player develops more Strains of muscles.

Upper Extremity:

The greatest percentage of upper extremity problems occurs in the shoulder region, I am reluctant to say the Rotator Cuff, because with 14 different muscles that refer pain to the lateral deltoid, the diagnosis is often overused and often incorrect. Supraspinatus Impingement syndrome, Rotator cuff, Bursitis, Tendonitis and Arthritis are the most common diagnosed problems that I deal with.

Seldom are these problems accurate descriptions of what the problem is. That is to say that something caused the symptomatic complaints above. Rotator cuff dysfunction says nothing about what causes it! I ask this question, which of the 14 muscles is not moving correctly? Is there a portion of the muscle that is dysfunctional or is it not moving correctly relative to the muscles it comes in contact with? When you fix the muscle and its motion, that's it..

Lower Extremity:

The Knees and ankles are most susceptible to injury. The lateral stability is usually compromised due to dysfunction of the quadriceps, Iliotibial band and adductors. These muscles are usually found to be tight and unable to appropriately lengthen and contract. The result is inflexibility and weakness towards the end ranges of motion. Said another way, the muscle and tendons are unable to maintain a contraction against the load it is under and the result is a failure of the structure or a gross alteration of the biomechanics to prevent injury.

In the golf work I do I, I call this the "escape" phenomenon. The body will break out of the desired swing pattern to protect itself. You can see this in tennis if you observe the overhead serve. Instead of reaching and stretching to toss the ball, they stay in a flexed posture or the body will attempt to get back to the flexed posture as quickly as possible. You see this as a short toss, rapid, jerky backstroke and a weak follow through. This is often the result of poor relative motion of all muscle groups. The Iliopsoas is the major culprit for limiting serves and causes a recruitment of the shoulder stabilizer muscles to generate the power in the serve, resulting in rotator cuff problems. Another problem area is the foot and ankle complex. Poor joint mobility leads to inadequate reflexogenic input to the muscles of the leg, thigh and hip. When the joint doesn't move properly the muscles won't either!!

The Back:

Do you mean the spine, the Para spinal muscles or the other back muscles like the Lats? The distinction is an important one. The back in general, as the tennis player knows it, is out of sight and therefore out of mind until something goes wrong. I typically find that Global range of extension is very poor, particularly in the Thoracic spine joints. This results in a recruitment of the shoulder area muscles to help maintain posture. This in turn causes the shoulder area muscle groups to "work continuously" making them hypertonic and



hypo kinetic. Shoulder injuries happen when the body has to use these fatigued muscles to swing the racquet! Any exercise that restores the Thoracic kinetic chain will be highly beneficial to the tennis player. If you look at the motion of the spine carefully, you would see that the Hip region and Thoracic spine regions are restricted in almost all tennis players. This results in excessive motion and load demands placed upon the lumbar and cervical. I have seen neck and back problems resolve when the Thoracic function is restored.

What muscles in the back are used in the tennis stroke?

What ones aren't? They all are. The non-voluntary Para spinals are always active to some degree. The power generation muscles must be defined as well as the spinal stabilizers. As a muscle function specialist this kind of question drives me mad! The Lats, Pectoralis Major and Deltoid are the major muscle groups that produce the power and are active only at various phases of the stroke. The stabilizer muscles also have phasic patterns; these muscles would be the rotator cuff or SITS muscles and the like. The Levator Scapulae muscle and cervical spine muscles also play an important role in elevating the shoulder during serves and controlling the rotational positioning of the body for both the forehand and backhand strokes.

Do you assess different problems based on the component of the player's game?

(Do I isolate motion specific problems?) Yes, I start with a simple video evaluation, one that I can do stop action or freeze frame with. It is vital that the players see themselves in action. They cannot understand what is going on until they "see" what they "think they are doing" and then connect the "feeling of doing it". It is generally obvious what the causative factors are once on video. Once established, a treatment and training plan can be devised that will generate fast results. You need to understand and "see" the whole body in motion to arrive at the right areas to treat. If the Psoas is dysfunctional and that is contributing to the alteration of the shoulder function, then treating the shoulder alone will not fix the problem. I have found that motion specific problems respond best to Active Release Techniques, because ART is movement specific.

How do trigger point pain patterns come into play in tennis players?

I will try to keep to a few sentences even though a thorough answer would require several pages. Trigger Point pain patterns are VERY important in identifying the muscles that are dysfunctional. For example, when a patient comes in and says his shoulder hurts, I grab Travell's flip chart and ask them to point to all the areas that bother them. There are usually several muscles involved and this lets the patient see that there is a lot going on. It is more than "just my rotator cuff". The process of trigger point activation also happens when a muscle is over loaded or over stretched. A little extra effort on a serve or that little extra effort to get to the ball can cause a latent TP to become active. Muscle dysfunction is usually beyond the awareness of the player, his trainer and even his doctors. They are not looking for it so they do not see it and the result is inappropriate treatments or exercises. I see this daily. Find the trigger point and you know 'that' muscle is involved. Fix the involved muscle and adjacent muscles and curing the problem almost assured. The symptoms are almost insignificant and will go away rapidly when the muscles work correctly. Active Release Techniques is the best for this.

Since tennis is a "handed" game, are there muscular imbalances that result?

Yes of course, but the true cause of this is Neurological. The pattern of muscle coordination is greater one way than another. The body does not "build up" "particular muscles" or develop "muscle memory". The nervous system adapts to the movement pattern demands through "plastic" changes. Basically, nerves grow limbs that make them more efficient. It would be like converting a single bullet gun to a shotgun. Although you pull only one trigger, you get a greater response, one that insures that the next neuron will



fire. In the case of "handedness" the underused side is less efficient. The solution would be to practice with the opposite hand side to develop the nervous system pattern causing the stimulation of the muscles. Doesn't that make sense? Remember, the body doesn't "know" muscles, only movement patterns. When we diagnose problems with muscles we ask what does it hurt to do? The patient would reply: "It hurts to raise my arm" as an example, not "my bicep is not contracting properly".

What kinds of treatments do you use in treating tennis players' ailments?

Active Release Techniques and Chiropractic adjustments of the spine AND extremities. I am all manual, no instruments. ART is the best and fastest method I have found to restore muscle function and I follow it up with restoration of joint motion with diversified adjusting. A digital camera would be the ideal tool to use to show the player his form and where the trouble areas are. I have used static posture Polaroid's to point out the problem spots. They are cheap, and provide immediate feedback to the player. I add any other physical therapy modality that will help including stretches, Yoga and diet modification.

What about preventive care?

Well it has been my experience in Florida that players just want to play. Prevention is not really a big factor to them. I make it a point to persuade them to take care and prepare, but it is a hard sell to the "type A's". Realistically the preventative care type activities are too slow a pace for them to enjoy. So they don't do them until they have to, usually after an injury. They stay with it until they can play pain free and then they drop it.

Do you work with tennis players' to correct faulty biomechanics that may be contributing to their problems?

Yes, if they are willing and open to it. As I have said, many are unwilling, they "know" and that is it. If I recommend something they do not agree with, then I am the one who doesn't know what I am talking about. Those players usually return to the Orthopedist for their 5th Cortisone shot, you know what I mean? High-level players also can't be taught by a chiropractor, so you have to approach the coach and see if you can persuade him that you are right, and then he can change the player. To do the job right, it takes a great deal of time and effort, one-on-one, to make the changes needed.

Do you see different problems in amateurs/ recreational players versus those at an advanced level?

Yes. Advanced or more frequent players are generally "conditioned" for the sport so they present with more repetitive motion type injuries. The recreational or infrequent player tends to "strain" muscles that they are not accustomed to using. In the case of tennis elbow, the advanced player has chronic stress on the tendon producing a granular type tissue that is thicker and more scar like and not inflammatory as many have come to believe. The net result (no pun) is that function is disturbed and results in pain. This is why anti-inflammatory works for the once in while player; they DO have inflammation from the sudden use of the muscles and tendons. Consequently, as the player continues to play and the problem persists, they try to treat it the same way, as though it were an acute inflammation problem. That doesn't work and now they have nowhere to turn. Many are told to give up playing, the very thing they LOVE. That is no solution in my book. I treat them using ART Active Release Techniques. It works great, and they get to play the game they love.