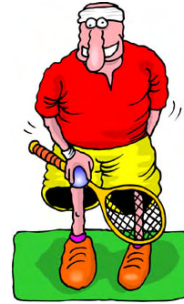


What a racquet!

Racquet Sports Injuries and Treatment

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The first part of this article dealt with overuse injury prevention in racquet sports. This second part of the article discusses the various types of typical injuries and their treatment.

Injuries and Treatment

Traumatic injuries

Traumatic injuries vary somewhat for each type of racquet sport. In racquetball and squash, eye injuries are a primary concern, but they are easily preventable with the use of protective eye wear.^{2,9} Most clubs require players to wear eye protection.^{3,9} Regular prescription eyeglasses are not designed to give enough protection and open eye guards do not offer enough protection, so choose eye guards that have been certified by either the Canadian Standards Association (CSA) or the American Standard of Testing and Materials (ASTM).^{3,9} 95% of eye injuries in racquetball and 60% in squash are due to being hit by the ball.²

Traumatic injuries to the shoulder in racquetball and squash are fairly common due to impact with a wall or a fall. Shoulder sprains and separations are the most common injury to the shoulder in these sports.⁹ Since tennis does not involve walls and is not played on a slippery surface, falls and wall impacts are usually not a problem.

Ankle sprains are very common in all racquet sports due to quick changes of direction and the stopping and starting motions required.^{5,9} Rupture of the Achilles tendon is not that common but very serious. It is felt as a sudden snap followed by immediate pain.⁹ Consult an orthopedic surgeon to determine the best course of action.⁹

The most common foot problems are blisters and calluses.⁹

Overuse injuries

Unfortunately, most body parts are subject to overuse injuries in racquet sports due to the high impact and repetitive motions required in these sports. For this reason, people who have previous injuries should take adequate preventive measures to avoid re-injury of their anatomy. Players with a history of joint injury should seek medical advice on taping or bracing before playing.⁴ People who compete or play frequently are at high risk of overuse injuries.⁴

One of the best ways to prevent overuse injuries is to allow adequate rest so your body can recover.¹² Periods of heavy training or lots of play need to be followed by rest to allow the body to adapt and grow stronger.¹² Many overuse injuries are caused by too much or too intense training and playing.¹² The body is unable to cope with the stresses of the training load and injury results.¹² Training and amount of play should start at a lower level and progress gradually.¹²

Wrist. In tennis, because the wrist is the last link in the kinetic chain, incorrect movement earlier in the chain will cause problems in the wrist. Impact forces and repetition are also contributing factors of wrist injury.⁵ Racquetball and squash require a snapping motion of the wrist, so tendons and ligaments of the wrist are frequently injured.⁹ Stenosing tenosynovitis, especially DeQuervain's disease, is quite common.⁹ A complete discussion of these disorders is in our article, "Repetitive Strain Injuries: Muscles and Tendons". Squash players are prone to bursitis and tears in the fibrocartilage tissues of the wrist resulting in pain in the outside of the wrist.⁹ The latter case is serious, so it is important to see an orthopedic doctor to determine the correct treatment.⁹ Review of the player's stroke mechanics is essential in addition to treatment of the injury.⁹

Elbow. Tennis elbow, or lateral epicondylitis, occurs in 40% to 50% of average recreational tennis players, especially those over 30 years old.⁵ It is probably the most common upper extremity injury to racquetball and squash players.⁹ This is a painful inflammation of the soft tissue on the outside of the elbow. Medial epicondylitis, often called golfer's elbow, is not common in tennis although it can be seen with forehand dysfunctions.⁵ Golfer's elbow involves the soft tissue on the inside of the elbow.⁵

Examination of technique and grip is important to identify causes of injury.⁹ The most common cause of tennis elbow is the one-handed backhand.^{5-Book} If coordination of the one-handed backhand stroke is incorrect, the wrist compensates, resulting in stress at the common extensor tendon.⁵ If mastering a correct one-handed backhand proves too difficult, switching to a two-handed backhand is recommended.⁵ Excessive wrist snap during the serve can also result in tennis elbow after many repetitions.⁵ When a ball is hit off-center it can cause excessive rotation of the forearm. If done repeatedly, it may result in an overuse injury.

Conventional grip position, optimal contact point, and effective timing of the lower links in the kinetic chain are often solutions to elbow pain.⁵

Overuse injury of the elbow, wrist, and hand is often linked to an inflexible or weak rotator cuff or unstable scapula. Joints and tissues further down the kinetic chain must compensate for inadequacies in the shoulder.⁵ The combination of conservative treatment and stroke correction has been shown to have a 90% chance of excellent or good results when symptoms have lasted less than 6 months and a 82% chance for symptoms lasting over 6 months.⁵

Shoulder. Adequate strength and coordination of the shoulder girdle muscles is crucial to eliminating shoulder overuse injuries.

Impingement is a common shoulder problem in tennis that can occur in racquetball, though rarely in squash.⁵ Impingement is a narrowing of the space where the rotator cuff tendons and biceps tendon lie. When the arm is raised overhead the tendons may be constricted, causing pain and limited range of motion.⁵ Overhead motions of tennis, especially while serving, and racquetball "ceiling rallies" can induce this problem.⁹ Squash players are usually spared this malady because there are no overhead motions.⁹ Studies have well-documented the fact that the racket shoulder of tennis players loses internal rotation range of motion. This is a potential risk factor for overuse injury in the shoulder.⁵

Analysis of the strokes reproducing painful shoulder symptoms is important. The common strokes that may lead to shoulder impingement include the topspin forehand and the serve.⁵ By finishing the topspin forehand with the dominant hand at or below the non dominant shoulder and focusing on generating force from the lower, larger, and stronger segments in the kinetic chain, the player may be able to eliminate the risk for shoulder impingement.⁵ During the serve, reaching higher with the dominant shoulder to optimize racket height at ball contact may actually put the shoulder in an impingement position.⁵ Carefully analyze the timing and sequencing of the kinetic chain prior to the acceleration phase to determine the optimal contact point.⁵

Back. Low-back strains and facet impingement syndromes are common injuries in tennis, racquetball, and squash.⁵
¹³ Forces on the muscles and joints are the cause of many back injuries, especially during the cocking phase of the serve when the spine is hyper extended and flexed laterally.⁵ Strengthening the abdominals and trunk helps to support the spine, strengthen the core, and prevent back problems.

Knee. Overuse knee injuries are very common in racquet sports players due to the quick, repetitive and multidirectional movements made during play.⁵ Patellofemoral tracking dysfunction and patellar tendinitis are common problems and may be caused by biomechanical problems.⁵ Inadequate strength or endurance of the quadriceps is often part of the problem, and muscular imbalance of the vastus lateralis to the vastus medialis is often present.⁵ Strengthening of the quadriceps progressing to one-quarter squats, wall sits progressing to multi-angle lunges and plyometrics, will help stabilize the patellar motion.⁵

Injuries to the ligaments was uncommon in racquetball and squash before the trend to play on bare, unvarnished floors.⁹ Such floors provide improved traction, but may increase the risk of injury to ligaments.⁹

Shoes must provide adequate support and cushioning.⁵ For tennis, changing from hard to clay courts, limiting prolonged tennis play and deep squatting is recommended for knee rehabilitation.⁵

This article and all of our articles are intended for your information and education. We are not experts in the diagnosis and treatment of specific medical or mental problems. When dealing with a severe problem, please consult with a healthcare or mental health professional and research the alternatives available for your particular diagnosis prior to embarking on a treatment plan. You are ultimately responsible for your own health and treatment!

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