I am an avid tennis player who plays at least 4 times a week. Lately, I have been experiencing shoulder pain. Can physical therapy help?

- Brenda
  Birmingham

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The causes of shoulder injury are numerous in tennis. Because tennis is repetitive in nature, the repetition subjects the shoulder to loads that challenge muscle strength, muscle endurance, and collagen tensile strength. Playing tennis too much, too often, or without proper warm up can predispose the athlete to injury.

Fatigue, overuse, and improper body mechanics may lead to chronic conditions that are difficult to correct. A “poor serve” may be due to fatigue of shoulder and scapular muscles that ultimately leads to a breakdown in technique. One “poor serve” may not cause pain, however, over time repetitive “micro-trauma” can produce tendonitis that limits play time or prevents play entirely. Limiting the number of serves in practice can eliminate the risk of developing chronic tendonitis in the rotator cuff muscles of the shoulder.

Unchecked muscle soreness can also disrupt the player’s mechanics. Pain from delayed onset muscle soreness can lead to a change in muscle strength and firing. Uncontrolled pain can cause pinching of structures between the shoulder blade and the arm bone. The use of ice to the involved shoulder after practice or matches may be sufficient to prevent a more chronic condition.

A tennis player should be encouraged to maintain a healthy shoulder on and off season. Making sure the athlete has sufficient range of motion at the shoulder will prevent injuries as well. Full internal and external rotation is especially needed for acceleration and deceleration of a serve. A warm up preceding stretching of the rotator cuff muscles and the posterior capsule of the shoulder is indicated for a healthy shoulder.

Tennis requires lower extremity, trunk, and upper extremity muscles working together in a coordinated fashion. The possibility of weakness in any of these areas makes the shoulder vulnerable to injury. A tennis coach, athletic trainer, or physical therapist should focus on good gluteal (buttock) and trunk strength as well as upper body strength. Good “core” strength of the abdominal and low back muscles not only provides power, but balance. The transfer of energy in the kinetic chain of events allows energy transfer from the feet to the legs, to the trunk, to the shoulder blade and arm, to the forearm and hand, and to the tennis racquet.

Generally, poor technique and poor conditioning are factors that set the stage for trauma.
Proper tennis technique along with good core strength and normal ranges of shoulder motion are essential elements to reduce the incidence of injury. A wise tennis player should integrate warm ups, flexibility training, and overall strengthening to maximize their performance.

Please submit any questions you may have for our sports medicine experts by e-mailing cangelel@dmc.org. In the subject line, please write, “Get Active, Stay Active.” We will respond to all the questions we receive and select one each month to feature in our column.

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