

# Elbow Injuries in Squash Players

## How They Happen & How To Prevent Them

Squash players often encounter elbow injuries, with orthopedic issues constituting more than 64% of all injuries sustained in the sport. The repetitive and high-intensity nature of squash makes the elbow the most frequently injured body part.

It is common for competitive squash players to face elbow pain or injury at some point in their career. However, the nature and severity of these injuries vary among individuals.

This article aims to delineate the various types of elbow injuries that squash players might undergo, elucidate the mechanisms behind these injuries, and provide insights into managing and preventing such injuries.

## Types of Elbow Injuries

The elbow is a complex joint, with numerous muscles, tendons, ligaments, nerves, and bony structures near one another.

The most common elbow injuries can be subdivided into four different categories:

- Lateral elbow pain/epicondylalgia
- Medial elbow pain/epicondylalgia
- Nerve injuries
- Traumatic injuries

### Lateral Epicondylalgia (Tennis Elbow)

Lateral epicondylalgia, more commonly known as “tennis elbow,” is the most common type of injury in squash players. Symptoms of lateral epicondylalgia can include:

- Pain on the outside of the elbow (when your palm is facing up, the side of the elbow where your thumb is)
- Tenderness to touch
- Swelling/inflammation
- Difficulty gripping objects or opening tight jars.

Lateral epicondylalgia can be caused by numerous different factors, including:

- Weakness in the wrist, forearm, and elbow muscles
- A rapid increase in playing frequency or intensity.
- Poor body mechanics and technique
- Equipment issues (such as an incorrect racquet grip size)

The most common aggravating factor for lateral elbow injuries in racquet sports is the backhand swing since this puts the most force on the tendons and muscles that cross the lateral elbow.

## Medial Epicondylalgia (Golfer's Elbow)

Medial epicondylalgia, more commonly known as "golfer's elbow," is like tennis elbow, but the location of the pain is on the inside of the elbow (when the palm is facing up, the side of the elbow where your little finger is). Medial epicondylalgia is less common in racquet sports than lateral epicondylalgia but is still a regularly occurring repetitive use injury.

Medial epicondylalgia can also be caused by muscular weakness, rapid changes in playing habits, biomechanical or technical factors, and equipment issues. Conversely, to lateral elbow injuries, medial elbow injuries occur more frequently through repetitive forehand swings.

## Nerve Injuries

Nerve injuries involve irritation of, or compression of, a nerve that travels through the elbow region. The three nerves that could be involved are the median, radial, and ulnar nerves.

Nerve injuries can present with symptoms including:

- Numbness or tingling in the elbow, forearm, wrist, or hand.
- Burning, shooting pain in the elbow, forearm, wrist, or hand
- Loss of grip strength and/or fine motor skills

Nerve injuries can occur from a variety of different causes, but the most common causes include:

- Repetitive use, leading to increased compression on a nerve from a muscle.
- Excessive pressure (from leaning on the arm or from poorly fitted equipment)
- History of traumatic injury (fractures, dislocations)

## Traumatic Injuries

While less common in squash, traumatic injuries such as fractures, dislocations, and severe bruises can also occur during racquet sports. These injuries are most likely to occur during a hard fall or collision with another player or a wall. Symptoms of a traumatic injury that should receive immediate medical attention include:

- Significant pain and inability to touch the injured site.
- Immediate visible bruising or bone piercing through the skin
- Inability to bear weight on the injured arm.
- Feeling that your elbow will "pop out of place."

## How To Prevent Elbow Injuries

Although it is not possible to entirely eliminate the risk of injuries in sports, there are several steps you can take to diminish the likelihood of sustaining an injury.

## Perform A Well-Rounded Strength Training Routine

Having a strong, well-balanced strength training routine is arguably the best approach to preventing injuries long-term. Strong muscles help ensure your body can handle the high-intensity nature of the sport.

Dedicate 1-2 sessions per week to upper body strength training. Exercises should focus on the elbow, wrist, shoulder, and shoulder blade muscles. Having strong biceps, triceps, and wrist muscles helps to improve force production and tolerance to loading of the elbow joint. Having strong shoulder blades and rotator cuff muscles helps reduce the load placed on the elbow and prevents imbalances in strength and endurance.

## Gradually Progress Playing Frequency and Intensity

Abruptly increasing how hard and frequently you play can be a contributing factor in repetitive-use elbow injuries. Going from not playing at all (or not that often) to playing 5-6 days per week for long periods creates excessive strain on the elbow muscles and ligaments, leading to repetitive-use elbow injuries.

To prevent this, opt for a gradual increase in playing frequency and intensity. Try to increase playing frequency by about one day per week at most (for example: if you currently play 2 days per week, increase it to three days per week the following week if your goal is to play more). Gradually increase how hard and long you play based on your energy levels and how your body is feeling. Incorporate rest days and training breaks when you start to accumulate fatigue.

## Manage Stress and Prioritize Sleep

Stress can prevent our bodies from recovering the way that they need to. Accumulated stress can prolong the inflammatory process that occurs after intense activity and can decrease your normal pain threshold. In addition, failure to get enough sleep prevents our bodies from recovering the way they need to.

Prioritize ways to keep stress levels under control and ensure you get enough sleep at night. Incorporating practices like meditation and mindfulness are useful for preventing and managing chronic stress. Spending time outside and in social situations can also help reduce stress levels. Aim for at least 7-8 hours of sleep per night regularly, including going to sleep and waking up at consistent times every day.

## Keep Good Posture

Maintaining "good posture" involves having effective control over your body position in various situations, including sitting, standing, and engaging in dynamic movements such as playing squash.

It is crucial to possess a strong core and neck to establish a stable foundation, allowing your arms to function optimally. Controlling your neck and shoulders is pertinent not only in sports but

also during everyday activities at home and work, preventing compensations that may affect the elbow.

Consider collaborating with a coach or trainer specializing in squash or racquet sports with expertise in proper mechanics and technique. Such a specialist can guide you in modifying your training to reduce the risk of injuries or aid in preventing existing injuries from occurring.

## What To Do If You Are Injured

In the event of experiencing an elbow injury, it doesn't necessarily mean you should cease playing altogether. The optimal approach to managing and minimizing your time on the sidelines depends on the type and severity of your injury.

Certainly, if you have a severe injury, cease playing immediately and consult with a medical professional.

Once significant and severe injuries like fractures and dislocations are ruled out, it is advisable to collaborate with a rehabilitation professional to determine the best way to address your injury and modify your playing regimen accordingly.

For most repetitive use injuries, the recommended approach is typically taking a few days off from playing to allow your muscles, tendons, and soft tissues to undergo the inflammatory process. After an initial rest phase, try gradually exposing your arm to loads it can tolerate. If possible, consider playing for shorter durations or at a lower intensity.

If you are unable to play, consider incorporating strengthening exercises for your elbow and forearm. Some ideas include:

- Wrist curls
- Frowns and smiles with a flex-bar
- Bicep curls
- Triceps extensions

Engaging in strength exercises for your rotator cuff and scapular (shoulder blade) muscles can help alleviate the load on your elbow, preventing compensations and overuse of the elbow muscles. Prioritizing scapular strengthening becomes especially crucial if your elbow cannot tolerate specific elbow strengthening exercises. Developing more shoulder and shoulder blade strength enhances movement efficiency and reduces strain on the elbow muscles when you resume playing.

Incorporating forearm and wrist muscle stretches aids in short-term pain relief and improves mobility if the muscles feel tight. For individuals experiencing nerve symptoms, nerve glides can enhance the nerve's ability to lengthen without pain.

Applying ice for 10-15 minutes at a time, 3-4 times per day, can be beneficial for short-term pain and inflammation relief. Ice massages using an ice cube or frozen water bottle for up to 5 minutes at a time are also effective. While modalities like TENS, massage, and therapeutic ultrasound offer short-term pain management, they should supplement strengthening and mobility exercises promoting long-term improvements.

As pain diminishes and you approach resuming play, incorporate the racquet into your rehabilitation exercises. This may involve gripping the racquet during elbow or shoulder strengthening exercises or following a return-to-sport program progressively increasing swing and serve volume and intensity. Integrating sports-specific training into rehab enhances your body's adaptation to the sport's demands.

If discomfort persists when restarting play, or if determined to play despite pain, consider using a brace. Tennis elbow braces reduce tension on painful muscles and tendons, proving effective in mild to moderate cases of lateral epicondylalgia. Similarly, Golfer's elbow braces offer support for medial elbow pain. Ensure proper brace application and gradually wean off to avoid long-term dependency.

Kinesio tape is another valuable tool for players seeking to play through discomfort or provide extra support and protection. It improves circulation and offers tactile feedback to painful muscles, being relatively inexpensive, easy to apply, and effective for a few days. Like braces, Kinesio tape should be used short-term and gradually phased out as pain levels improve. Exercise caution with Kinesio tape if you have skin allergies or sensitivity.

For specific guidance on structuring your rehab process, consult with a physical therapist or another qualified medical provider. Physical therapists excel at identifying contributing factors to injuries and tailoring recovery plans to individual needs and goals.

#### References:

1. Chung KC, Lark ME. Upper extremity injuries in tennis players: diagnosis, treatment, and management. *Hand Clin.* 2017;33(1):175-186.
2. Finch CC, Eime RM. The epidemiology of squash injuries. *Int Sports Med J.* 2001;2(2):1-11.
3. Lucado AM, Day JM, Vincent JI et al. Lateral elbow pain and muscle function impairments. *JOSPT.* 2022;52(12):770-836.
4. Taylor SA, Hannafin JA. Evaluation and management of elbow tendinopathy. *Sports Health.* 2012;4(5):384-393.
5. Haack M, Simpson N, Sethna N, Kaur S, Mullington J. Sleep deficiency and chronic pain: potential underlying mechanisms and clinical implications. *Neuropsychopharmacology.* 2020;45(1):205-216.
6. Yoon SY, Kim YW, Shin IS, Kang S, Moon HI, Lee SC. The beneficial effects of eccentric exercise in the management of lateral elbow pain: a systematic review and meta-analysis. *J. Clin Med.* 2021;10(17):3968.

7. Sadeghi-Demneh E, Jafarian F. The immediate effects of orthoses on pain in people with lateral epicondylalgia. *Pain Res Treat.* 2013;353597.
8. Cho YT, Hsu WY, Lin LF, Lin YN. Kinesio taping reduces elbow pain during resisted wrist extension in patients with chronic lateral epicondylitis: a randomized, double-blinded, cross-over study. *BMC Musculoskelet Disord.* 2018;19(1):193.