

Hand, wrist, and elbow injuries are common for golfers of all skill levels. The golf swing is a complex, coordinated series of motions. Common golf injuries can result from poor technique, overuse, or a single event. Many single-event injuries happen when the club hits the ground by accident.

There are many ways to prevent golf injuries and enjoy the game:

- Warming up and stretching is important before golfing
- Gradually increasing the length and intensity of play can avoid overuse injuries
- Strengthening the upper body and core muscles can improve swing mechanics
- Instruction with a golf professional can correct hand position and grip to focus on safer technique

Types of Golf Injuries

Golf injuries can affect any part of the upper extremity. Structures of the neck, shoulder, arm, elbow, wrist, fingers, and thumb can be irritated, stretched, or broken. The diagnosis and treatment of the most common golf-related upper extremity injuries are discussed below.

Medial Epicondylitis

Also known as “golfer’s elbow,” medial epicondylitis is a pain on the inside of the elbow caused by irritation of the tendons in the area. The muscles that flex the wrist and rotate the forearm palm down also cross the elbow joint (Figure 1). Repeatedly swinging a golf club for extended time or having poor technique in golf club grip and hand position can irritate the muscles or tendons, causing pain.

Signs and Symptoms

- Pain on the inside corner of the elbow, often right on the bony prominence
- Tenderness to touch
- Worse pain with gripping or lifting
- Lifting may be worse with a straight elbow than a bent elbow

Diagnosis

Diagnosis of medial epicondylitis is often made by history and physical exam. In cases that are not responding to treatment, it may be helpful to obtain an imaging study. Ultrasound or magnetic resonance imaging (MRI) are the most common studies ordered.

Treatment

Medial epicondylitis will almost always be treated without surgery. Non-surgical treatments usually include:

- Activity modification: Limiting the activity that caused

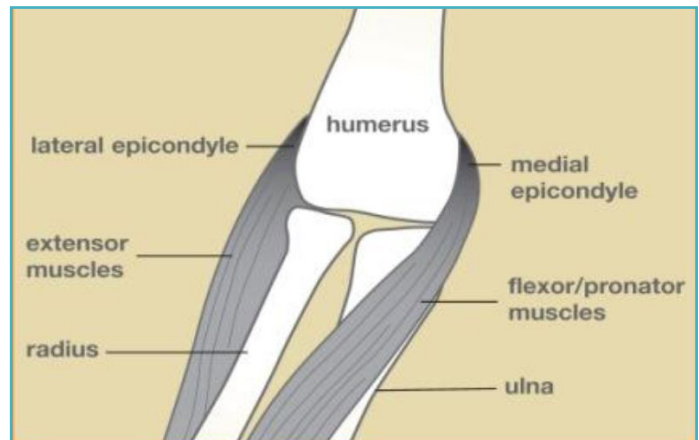


Figure 1 - The inner aspect of the elbow where medial epicondylitis, one of the common golf injuries, causes painful tendonitis.

the condition—in this case, golfing. This will allow the irritation to resolve. However, it is important to be patient. Many tendonitis conditions can take months to improve, not days or weeks. If the activity cannot be stopped, a physical therapist or golf professional may be able to teach you how to modify your grip or swing to relieve the pain

- Medications: Anti-inflammatory medications might help alleviate pain
- Brace: A band (counterforce) worn over the muscle belly just below the elbow can improve symptoms in some patients
- Wrist splint: Wearing a wrist splint can improve pain by limiting wrist flexion and extension
- Therapy: Working with a therapist may help stretch and strengthen supporting muscles affected by the injury, treat symptoms of weakness or pain, maintain range of motion, and recover sooner
- Steroid injection: In patients who do not improve, injecting a stronger anti-inflammatory medication at the elbow may be beneficial

Wrist Tendonitis

Golfers who play too much or too aggressively can develop tendon irritation at the wrist. This is called wrist tendonitis and is similar to medial epicondylitis (discussed above). This irritation can occur on either the front or back of the wrist. It is more common in the leading hand (left hand for a right-handed player and vice versa).

Signs and Symptoms

- Pain on the front or back of the wrist or forearm
- Tenderness to touch
- Worse pain with gripping, flexing, or extending wrist

Diagnosis

Diagnosis of wrist tendonitis is made by history and physical examination by a doctor. X-rays do not show tendonitis but may be obtained to rule out other injuries. Other imaging such as ultrasound or MRI could be ordered.

Treatment

Wrist tendonitis is treated similarly to medial epicondylitis—almost always without surgery. Usual treatments include activity modification, anti-inflammatory medications, bracing, and therapy. If these do not work, your doctor may recommend injection of a stronger anti-inflammatory medication called a steroid.

Hamate Bone Fracture

The hamate is a small bone in the wrist. It is located on the outside of the wrist on the pinky side. It is shaped like a wedge with a hook sticking out of it (Figure 2).

The hook is located on the palm side of the hand. It is narrow and can break off. This can happen when a club strikes the ground, forcing the hard handle to kickback against the hook and sometimes break or crack the hook (Figure 3).

Signs and Symptoms

- Pain in the heel of the hand
- Pain with grip
- Swelling
- Bruising
- Numbness or tingling in the pinky and ring fingers
- Loss of small finger bending

Diagnosis

Diagnosis of hamate fracture starts with history and physical examination by a doctor. X-rays are often enough to show the fracture. However, it may be missed on common screening x-rays as the hook can be hard to see.

Therefore, if the initial x-rays do not show the fracture your doctor, may order other specialized angled views. If these x-rays are still normal, but the surgeon is still suspicious, they may order a computerized tomography (CT) scan (Figure 2) or MRI.

Treatment

Some simple hamate fractures are treated without surgery. This involves a cast or splint for six weeks followed by hand therapy to regain range of motion. This may allow pain to improve, but the fracture may not have complete healing on x-rays.

If the injury is not responding to non-operative care, the most common surgery is to remove the broken hook and

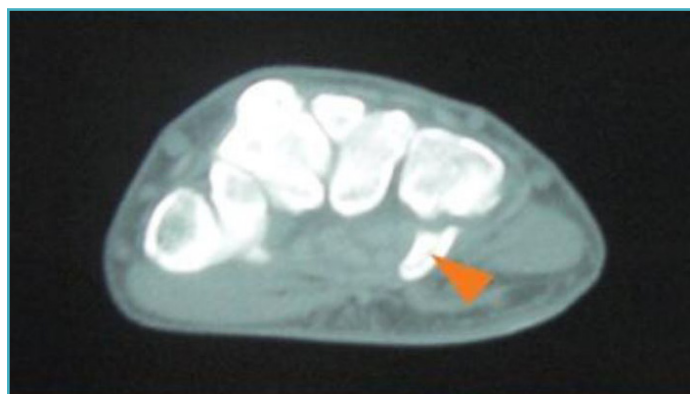


Figure 2 - CT scan showing fracture of hook of hamate at its base.

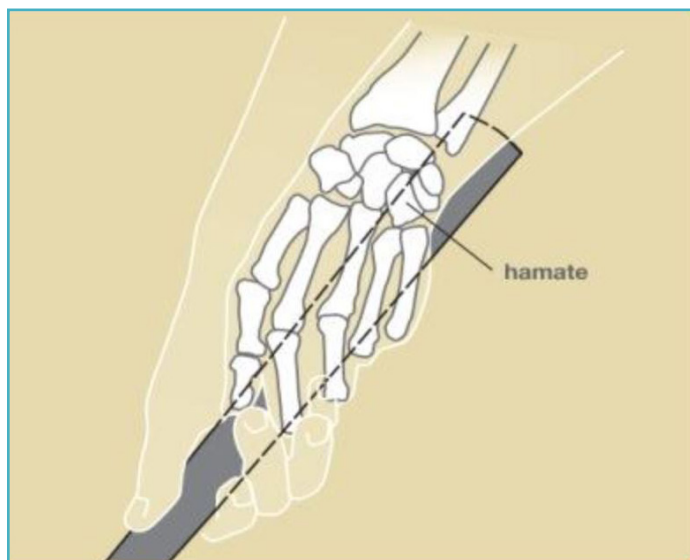


Figure 3 - Hook of the hamate as it grips a golf club. The hook part of the bone can break, causing a hamate bone fracture, one of the common golf injuries.

smooth any remaining rough edges of bone. Without the hook, the hand, wrist, and fingers can work normally.

Your surgeon can also consider trying to fix the fracture with a screw to get it to heal. However, fixing surgery has a lower success than many other fractures due to the small surface area available for healing and the high forces pulling on the hook that prevent it from healing.

Hypothenar Hammer Syndrome

Hypothenar hammer syndrome is named for the action that causes it. The hypothenar area is the fleshy muscle on the outside part of the palm on the pinky side. There is a blood vessel that runs underneath this area called the

ulnar artery (Figure 4). If this area is “hammered” or struck repeatedly, this blood vessel can be injured. For golfers, this can happen when the club handle repeatedly strikes the palm, which can weaken the blood vessel wall. Then, the weak walls can thin and stretch. This enlarges an area of the artery and creates some local irregularity in blood flow. The blood flow can slow down, become dilated, and even clot.

If the blood clot fills the vessel or a piece dislodges and moves down to block a smaller vessel in the finger, it can interrupt blood flow to the hand or fingers completely. This can result in rapid tissue injury, loss, or death to part or all of a finger. Therefore, this problem can become a surgical emergency. The decrease in blood flow may also occur slowly so that the body has some time to adapt. If it occurs more slowly over time, then symptoms may be less severe while gradually there is no blood flow to the hand or fingers.

Signs and Symptoms

- Pain in the palm
- Pain in the fingertips on the pinky side
- Numbness in the fingertips on the pinky side
- Color changes in the fingertips on the pinky side
- Cold sensitivity in the ring finger and pinky
- Small fingertip wound that doesn’t heal
- Brown or red lines under the fingernails

Diagnosis

Diagnosis of hypothenar hammer syndrome starts with history and physical examination by a doctor. An ultrasound is often the first test to check for vessel damage. If this is concerning, your doctor may order an angiogram. An angiogram injects dye into the vessels so they can be seen under x-ray (fluoroscopy), CT scan, or MRI. seen under x-ray (fluoroscopy), CT scan, or MRI.

Treatment

Treatment of hypothenar hammer syndrome depends on the severity. Some patients may get better with modification of their golf grip or swing. If your vessel is very damaged or has developed a clot, surgery may be required.

Depending on multiple factors, surgery may include excision of the aneurysm with or without a graft to reconstruct the artery, blood clot removal (thrombectomy), or medical treatment with blood-thinning (anticoagulation and anti-platelet) medications.

Sprained Wrist

Some golfers develop wrist sprains from overuse or hitting the ground before the ball. A sprain is an incomplete injury to a ligament in the wrist. Ligaments are strong

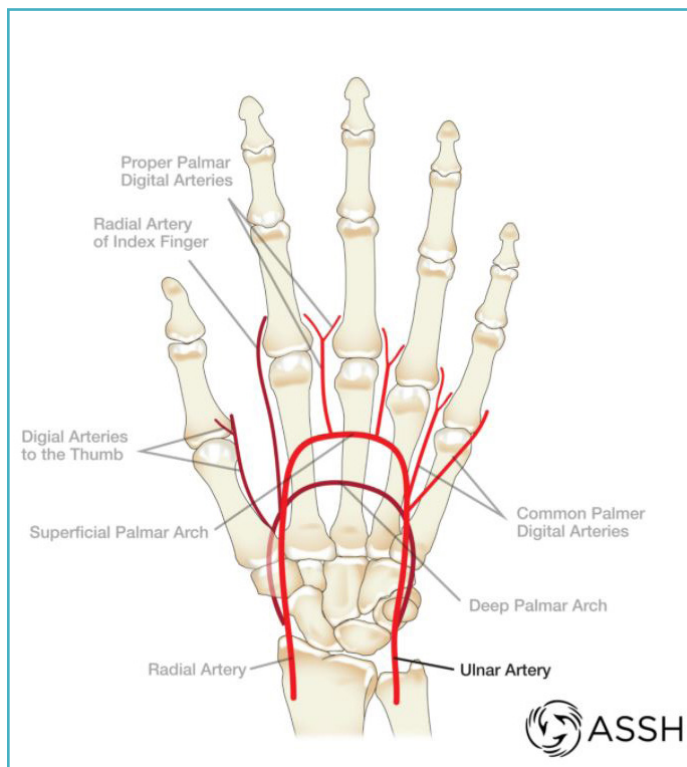


Figure 4 - The ulnar artery runs under the hypothenar area, the fleshy muscle on the outside part of the palm on the pinky side. If a golfer “hammers” this area by striking their palm with their club handle, this can weaken the blood vessel wall.

structures that hold bone together. A sprain can be anything from a mild stretch to a partial or complete tear.

This sprain usually causes pain and popping in the wrist. It might also cause swelling, motion, and loss of grip strength. Please refer to our article on sprained wrists for discussion of symptoms, diagnosis, and treatment of this condition.