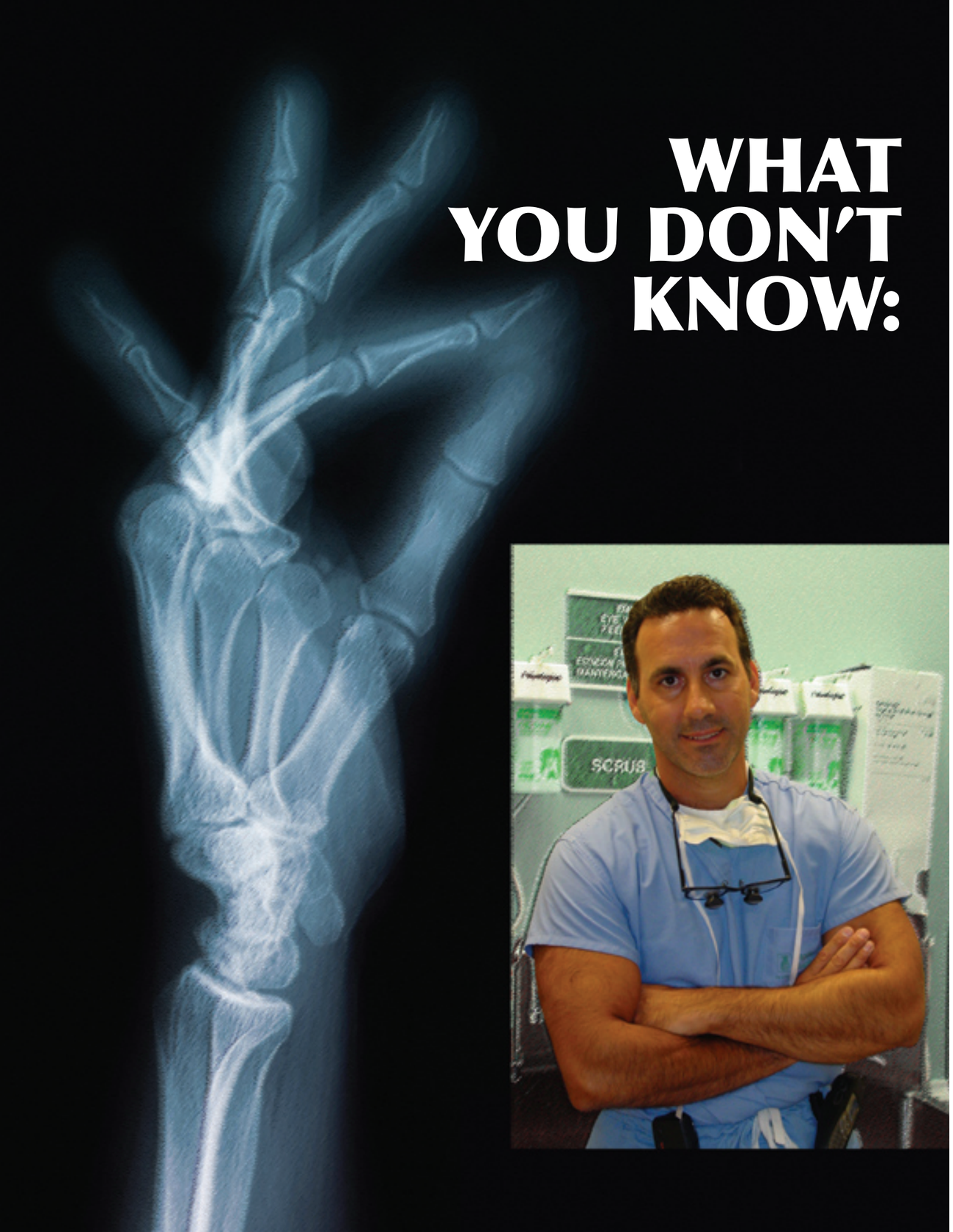
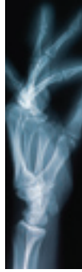


The *Truth* about Carpal Tunnel Syndrome

by Alejandro Badia, MD



Carpal Tunnel Syndrome (CTS) is a common, but misunderstood condition. In recent years, it has received much coverage in the press, yet it remains puzzling even to the scientific community.

The media has branded CTS as an occupational disease because workers have linked the pain in their hands to repetitive activities such as typing or assembly work. Despite popular opinion, using a keyboard does not cause this condition. However, if one has a predisposition to this condition, repetitive activity such as typing can aggravate it.

Carpal Tunnel Syndrome simply means that there is a compression of the median nerve in the hand. This nerve sits inside a tunnel in the hand, of which the floor and walls consist of bones known as carpal bones.

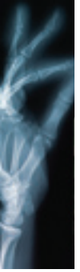
Besides the nerve, there are nine tendons that run through the canal that flex the fingers and thumb. When the lining around these tendons becomes inflamed, there is less space for the nerve and it becomes compressed. This compression of the median nerve leads to the symptoms of CTS.

The most frequently reported symptoms of CTS are nighttime numbness and tingling in the hand. There can also be pain and weakness in the hand, particularly in the thumb. If these symptoms are allowed to progress untreated, they can lead to atrophy of the muscles in the base of the thumb.

Besides the physical symptoms of CTS, the diagnosis is easily confirmed by a simple nerve conduction study. This study, which measures the velocity and the latency of the nerve impulse across the median nerve at the wrist, will show the physician if there is a compression of the median nerve.

CTS most commonly occurs in middle-aged women, often perimenopausal, or in women who are in the third trimester of pregnancy. It can also be caused by chronic conditions such as diabetes, gout or thyroid disease. It often coincides with related conditions such as tendonitis in the fingers, (trigger finger) or tendonitis in the wrist. DeQuervain's tendonitis, for example, leads to pain in the wrist at the base of the thumb.

The treatment for CTS is directed at decreasing the inflammation of the tendons. Injections of steroids, such as cortisone, can lead to a decrease in the swelling. This will allow the median nerve more room in the carpal tunnel and relieve the pain. The most common treatment, without the use of drugs or injections, is a night splint. This splint prevents the patient from flexing their wrist at night, which often occurs during dreaming. This relieves some of the pressure within the canal. Symptoms are usually magnified at night because the position of the hand is at the same level of the heart, which leads to pooling of the fluid in the soft tissues within the canal.



There are also complicated hormonal changes that can lead to increased nighttime fluid retention. As a remedy to this, some researchers recommend high doses of Vitamin B-6 as a diuretic to decrease the fluid in the carpal canal, leading to the relief of symptoms.

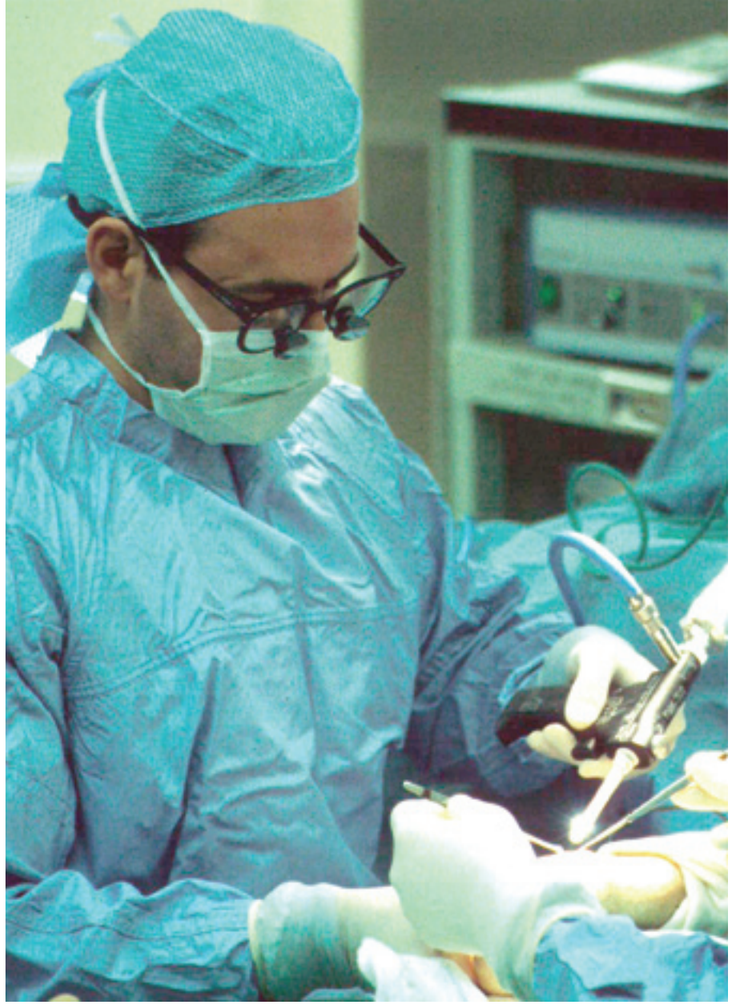
If the compression is severe and the patient does not respond to conservative treatment, the next step is surgery. The public, as well as some physicians, misunderstand surgery for Carpal Tunnel Syndrome. There are many false beliefs about the outcome of this procedure. Some patients are even fearful of losing the function of their hand if they undergo surgery. The truth is, the surgery is extremely successful.

Surgery for CTS entails a very simple procedure. A division is made in the ligament which serves as the roof of the carpal tunnel. This division gives an increase of space in the carpal tunnel, which allows the median nerve to function as it should.

The most recent breakthrough in treatment of CTS, which is commonly used at our practice, is called endoscopic release. In this procedure, an incision of less than one centimeter is made in the crease of the wrist and an endoscopic, a tiny camera, is inserted. This allows the surgeon to literally see inside of the hand in order to make the division of the ligament. This is not a laser surgery, but rather surgery using fiber optic technology, which allows a surgeon to operate "from inside out". The use of this procedure means that tender tissue is not violated and there is minimal pain, if any. The advantages to this technique are less scarring and decreased recovery time, which allows the patient to return to work quickly.

The long-term result of endoscopic release for treatment of CTS is excellent, and benefits the patient more than the traditional means. Patients occasionally complain of some soreness in the palm when resting their hand upon a hard object, otherwise, there are fewer complications, and less pain following this type of procedure.

The key to understanding Carpal Tunnel Syndrome is to think of it as a pinched nerve in the wrist that leads to symptoms such as numbness or tingling. These are painful conditions that need to be evaluated by a surgeon or specialist in this field. Either a rehab medicine specialist or a neurologist can confirm the condition by conducting nerve conduction studies.



CTS is an easily treatable condition when properly diagnosed by a trained physician. If you have pain in your hands, take heart; don't quit your typing job.

Dr. Badia performed his undergraduate studies at Cornell University in Physiology. He obtained his medical degree at New York University where he subsequently completed his internship in general surgery and residency in orthopedic surgery. He also completed a hand and upper extremity fellowship at Allegheny General Hospital in Pittsburgh, Pennsylvania, followed by a traveling hand fellowship in Europe through the AO Trauma Association. He runs a successful hand center in Miami, Florida, and often lectures in Brazil, Venezuela, Argentina, and Peru.