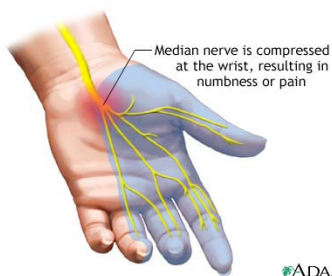


The SafeGuard System

Matthew Young

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“Carpal tunnel syndrome is the most common entrapment neuropathy dealt with by clinicians.”⁴ It is a condition caused by the compression of the median nerve at the site of the wrist. This nerve runs from the forearm into the hand controlling sensations to the palm side of the thumb, fingers (not including the little finger), and some of the small muscles that allow the thumb and fingers to move.

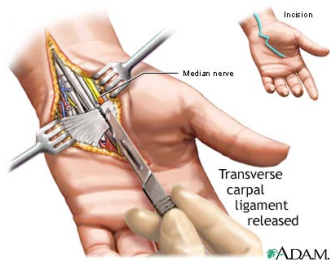


The median nerve is housed by a narrow, rigid passageway of ligament and bones at the base of the hand, known as the carpal tunnel. The lining of this tunnel can become compressed due to irritated ligaments or swelling. This narrowing may result in pain, weakness, or numbness in the hand or wrist radiating up the arm.

Carpal tunnel is usually the result of a combination of factors that increase pressure on the nerve within the canal. The syndrome is most likely due to a congenital predisposition where the tunnel is smaller in some people. Statistically, women are three times more likely to develop the disorder. Other causes include injury to the wrist, or other trauma that would cause the canal to swell. There are studies that suggest that repetitive motions of the wrist, such as typing, are also linked to this condition.

If the condition becomes chronic, it is necessary, for the health of the ligament to undergo correction by surgical means.

There are three major types of carpal tunnel surgery, traditional, endoscopic, and the safe guard method. The traditional open release surgery consists of making a two-inch incision in the wrist and then cutting the ligament. The surgery is time consuming and recovery takes months.

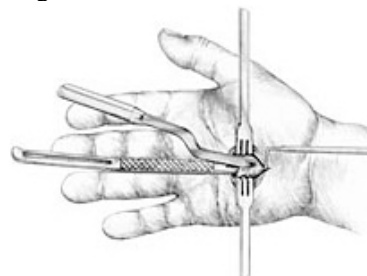


The second is endoscopic surgery that allows for fast functional recovery and less postoperative discomfort. The surgery consists of two incisions (about 1/2" each) in the wrist and palm. Then a guiding camera attached to a

tube which helps guide an endoscopic knife, is threaded into the incisions. This method is expensive, takes less but does not optimize time, and recovery time is acceptable. The third option is the Safeguard system.



The safeguard system includes a simple two tool design including a protective guide and knife that surgeon uses to make a minimal incision of (1-2cm). From the incision, the doctor can effectively see the median nerve and tunnel. He then slips the protective guide, which includes a track for the knife, over the nerve, protecting it. The knife is then led into the track, effectively releasing the carpal ligament. A very effective and efficient system that uses only a fraction of the time the other methods use in the operating room.



According to a study on cadavers “The area of the "safe-zone" is greatest when a protective guide is placed between the bursal sac of the carpal canal and the flexor retinaculum.”² This along with a tiny incision, cost effectiveness, reduction of scarring and pillar pain, and a potential early return to work has made the safe guard system the next best tool for a carpal tunnel surgery.

¹<http://www.lifespan.org/adam/healthillustratedencyclopedia/1/002976.html> (p. 1)

²<http://www.handatlas.theclinics.com/medline/record/MDLN.11560434>

³http://www.ninds.nih.gov/disorders/carpal_tunnel/detail_carpal_tunnel.htm#68963049

⁴<http://www.handatlas.theclinics.com/medline/record/MDLN.15971217>

⁵[\(p. 3,4\)](http://www.visitkmi.com/physicians/upper_extremity/safeguard.html#(p.3,4))

⁶<http://www.lifespan.org/adam/healthillustratedencyclopedia/2/19250.html> (p.2)