



October 2009

Nerve Conduction on the Wrist



Just as you can feel pain in your bottom teeth when you have a cavity in a top molar, a feeling of “pins and needles” and numbness in your hand may result from a problem in your wrist or shoulder. Both are common symptoms of carpal tunnel syndrome, a condition caused by compression of nerves in the wrist and often diagnosed by manipulating the wrist to provoke symptoms—for example, tapping the front of the wrist causes tingling, squeezing it can induce pain and so forth.

However, the best test to determine what is going on in your hand is a nerve conduction velocity test, which shows how fast and how efficiently your nerves are transmitting information (in the form of electrical signals) to your brain. Using a nerve conduction velocity test, the physician can discover nerves that are not functioning optimally and diagnose carpal tunnel syndrome and other conditions.

The test is very simple: Small electrodes are placed onto the skin along the path of the nerve. One electrode sends an electrical impulse to the nerve; another electrode picks up the impulse. Calculating the time it takes for the impulse to travel between the two electrodes measures the nerve conduction velocity, or speed of transmission. Decreased speed of transmission suggests a problem with that particular nerve and can help the doctor diagnose the problem and design a plan of action accordingly.

No risks are involved with nerve conduction studies. The only side effect is a slight tingling or burning at the electrode sites from the electrical impulses—probably no worse than the feeling in your hands that brought you to the doctor in the first place!

After you have been diagnosed, we can help you modify your workplace, home environment and activities. Sometimes, a night splint or brace is used to facilitate a better sleeping position for the wrist and hand. We can also teach you specific exercises to strengthen the muscles between the shoulder blades and in the wrists and hands. Other exercises—many that can be performed at work or at home—stretch the forearms, the palm and the fist, increase flexibility of the arm/hand region and reduce tension on tendons that pass through the wrist and relieve that uncomfortable feeling in your hand.