

Wrist and Hand Pain

Today's work environment has led to an increase in wrist and hand complaints. An increase in desk jobs and the use of computers are the major culprits. Conditions such as Carpal Tunnel Syndrome, Ulnar Nerve Syndrome, as well as Repetitive Stress Injury are common diagnoses.

Typing is a high repetition/low rest task and highly traumatic to muscles. If you look at the formula for insult of injury to a tissue below, the number of repetitions is in the top of the equation (numerator) and rest in between repetitions is in the bottom of the equation (denominator).

$$\text{Insult of Injury} = (N * F) / (A * R)$$

N = Number of repetitions

R = Rest in between repetitions

F = Force

A = Amplitude of Force

Example: A person types 60 words a minute or approximately 300 repetitions per minute. The rest between repetitions is 0.2 seconds. This makes for a larger value for Insult of Injury.

$$300(F)/0.2(A) = 1500(F)/(A)$$



The wrist is a complex area of muscles, tendons, ligaments, nerves, tendons, and joints. They all work together in order to allow us to perform intricate movements. This is also known as fine motor skills. Muscles must be in the proper balance in order to perform these fine movements. Adhesions or scar tissue on the soft tissue may affect this balance.

Adhesions form for the some of the following reasons:

- Repetitive tasks such as computer work resulting in micro traumas to the muscles.
- Scar tissue from surgeries.
- Working in awkward positions for extended periods of time.
- Acute trauma
- Previous trauma to the area.
- Lack of movement of the area i.e. splinting
- Lack of blood flow to the area.

The problem with the tissue does not have to be in the area of complaint. For example, most complaints in the wrist and elbow come from restrictions found in the muscles of the forearm. If the muscles of the forearm are shortened from adhesion formation, they will put more stress on the tendons of those muscles. The tendons are found in the wrist and elbow resulting in tendonitis of those areas. Nerves in the forearm may also become entrapped in the tissue and cause radiating symptoms into the hand as well.

Active Release addresses the restrictions in the hand/wrist and adjacent structures like the forearm. When these restrictions are released, it decreases the stresses placed on the muscles, tendons, ligaments and nerves. This allows the area to heal and restores a proper balance to the wrist and hand. **PAIN USUALLY RESOLVES WHEN PROPER BALANCE IS RESTORED AND/OR NERVES ARE RELEASED FROM THE SOFT TISSUE.**