



REPETITIVE STRAIN INJURIES FAQ

1) What is repetitive strain?

Repetitive Strain injuries are part of a group of problems called “cumulative trauma disorders.” They are unique in that the insult or injury to the hand or upper extremity may be gradual and insidious. Many tiny injuries (microtrauma) to the tendons or nerves of the extremity add up or accumulate and ultimately reach a point where patients cannot perform their job or daily activities and seek the aid of a hand surgeon.

2) How can it happen and what does it affect?

An injury can occur, for example, when someone at a work station repeatedly places their hand and wrist in an unfavorable position to perform their job which pinches nerves or causes overworked tendons to swell.

Sustained gripping can also lead to such symptoms. It is very unusual for anyone to say exactly when he/she began experiencing pain, swelling, numbness, or decreased motion in his/her hand or wrist. This is in distinction to an “acute” injury where there is a single accident or event which results in an injury. The lining around tendons, which straighten or bend the wrist and fingers may swell and produce pain whenever one tries to move them. The swelling of the soft tissues of the hand may progress to scarring and lead to joint stiffness. If the nerves of the extremity are constantly pinched, they can be affected by decreased blood flow, directly compressed by swelling, and affected by scar. Numbness and pain in the hand may result.

3) Who is at risk?

People who are involved in job activities that require movements repeated many times over a short period of time such as an assembly line worker would be at risk. Even musicians who perform or practice constantly can experience repetitive strain. A job such as computer data entry at a computer station that is not ergonomic is a possible cause of repetitive strain. Even athletes are subject to repetitive strain injuries. Their problems are directly related to physical conditioning, the execution of a play, their body build or a combination of these factors.

4) What can I do to prevent it?

Ergonomics is the study of how human beings are positioned in relation to their work station and the equipment needed to carry out their job. Three factors are key to preventing repetitive strain and subsequent injury. Altering the position of the extremity as it relates to the work station to avoid an unfavorable bend or height can decrease the strain on joints, tendons and nerves. If a job is repetitive, then the number of task cycles or the number of times a job is repeated can be lowered. Rotating jobs prevents any one tendon, nerve, or joint from being subjected to repeated stresses. Allowing the hand or extremity to come to rest in-between performing jobs will also help to prevent strain.

Physical conditioning and modification of the execution of a play may help athletes avoid injury.

5) What treatments are available?

If tendons are affected by swelling, then medications, which decrease inflammation, resting splints and occupational therapy, may be recommended. A change of job activities will help break the cycle of injury. Occasionally patients are placed on light duty or taken off work for a short period of time. Splints may decrease the pressure on nerves and injections may decrease local swelling.

Occasionally surgery is needed to release the pressure on nerves if it is severe. Nerve conduction studies are helpful to determine the severity.

6) Summary

Simple actions which can help prevent repetitive strain are:

- Frequent breaks at work

- Ergonomic evaluation of a work station

- Rotation of job activities

- Physical Conditioning

Early evaluation by a hand surgeon if you are experiencing pain, swelling, numbness or stiffness which does not completely resolve with rest can detect repetitive strain early and lead to resolution.