

Repetitive Strain Injuries: Beyond the Carpal Tunnel



In upcoming articles of this series, we will discuss the specifics of various Repetitive Strain Injuries, including carpal tunnel syndrome, and the various treatments for each. But first we will lay some groundwork that is important to understand before learning the details. In this article, we address why RSI happens, whom you should see if you have a problem, and what a diagnosis means, in addition to introducing you to the types of RSI and their classification.

Why RSI happens to good people

RSI involves injury to the soft tissues of the body (i.e., muscles, tendons, nerves and ligaments).¹ Our bodies are not designed to work and play in stationary positions, hour after hour, year after year, making very small motions with our hands. When we do this, we lose muscle tone, circulation is restricted, and scar tissue builds up in the areas that are held rigid, so we lose flexibility. We become stiff and movement becomes painful. The body creates fibrous tissue to accommodate fixed postures, tethering nerves in place and causing excessive wear and tear on them. Constant repetitive motions, awkward postures, and small range of motion cause tendons to get sticky and inflamed, causing irritation and fluid buildup. Tensed muscles get inflamed, eventually pinching nerves.

The people who are most susceptible to RSI are the hardest working and most dedicated people, or those who are not conditioned and/or are not aware of their body's messages. These people do not stop an activity when their body is hurting and sending them signals (i.e., early warning signs).¹

Early warning signs

Signs that your body is not recovering from day to day activities such as driving, writing, typing, pipetting, gardening and cooking are unusual aches, burning, tenderness, fatigue, soreness and stiffness. In the case of nerve damage, you may feel no pain or soreness at all, but you may feel coldness, an odd annoying sensation and awareness that one hand feels different from the other, or hypersensitivity in the area of nerves.¹ At first, early warning signs are easy to ignore because they come and go or move around. But eventually they will become chronic if changes are not made to an inappropriate workstation, harmful habits and stressful activity.

Self-care

As soon as you experience early warning signs, it is best to take action immediately. Stop what you are doing and evaluate the task. Can it be done differently? If it has to be completed within the day, does it have to be done all at once? Or is there something that you did yesterday or last week that is causing the

muscle tension that is inhibiting your recovery from daily wear and tear? Please read the article we wrote on self care, "Take Good Care of Yourself" and the self care pages of this website. If early warning signs are not treated, you will eventually experience pain, or possibly numbness and tingling.

Diagnosis

If you are feeling strange sensations in your hands, arms, or wrists, or if you are experiencing pain that does not go away, it is important that you find a practitioner who will treat the problem early to avoid continued damage to your body. Diagnosis is often difficult because of the complexity of the problem. Therefore, an accurate diagnosis is not always made. Unfortunately, once the diagnosis is made, the period of exploration is over and the treatment options offered to you will be limited.¹ If the diagnosis is too narrow because the symptoms rather than the underlying causes were considered, and the probability that there are more interrelated problems was not addressed, the injury will not be resolved. Getting the correct diagnosis is the first step toward resolving the problem. Following an effective treatment plan and making changes to your work habits and life style is the total solution.

Who to see

Going to your family doctor is certainly a logical place to start, but it is only a start. Most medical doctors are not trained in RSI because it involves a complex interaction of the body's systems.¹ Doctors are trained to look for a specific malfunctioning body part, and they try to fix it with remedies or devices. The best doctor uses a holistic approach to solving RSI and will refer you to someone who specializes in RSI treatment. If your primary care physician does not make a referral, you must request it. You should see a **Physiatrist** (fizz ee at' trist),² a doctor of physical medicine and rehabilitation with specialized training in the systems of the body. Psychiatry focuses on restoring function and rehabilitation of people with a wide range of problems. Physiatrists are specifically trained in musculoskeletal disorders, such as RSI.³

A chiropractor, *trained to treat soft tissue disorders such as RSI*, is also a good option. Many insurance companies will cover visits to a chiropractor. Chiropractors are much better trained in the body's system interactions than most doctors. Massage therapists and other body therapists are also successful in treating RSI. Many chiropractors are much more connected to other holistic practitioners, which is an asset when attempting to resolve the complex problems of RSI. There are literally hundreds of other types of practitioners who may be helpful, from acupuncturists to Hellerworkers. It is certainly worth the time, expense and effort to explore these alternatives in solving the complex mysteries of RSI. It is important to seek out practitioners who specialize in RSI and have a clue as to what might be the source of the problems.

Treatment

Typically, a general doctor will start the treatment of a painful wrist or arm by recommending anti-inflammatory drugs and often a wrist brace. The first is appeasement and the second a crutch.¹ RSI generally does result in inflammation which should be treated, but anti-inflammatories treat a symptom, not the cause, so results will be temporary. Continuous use of anti-inflammatories will cause a host of uncomfortable side effects. We will discuss splints and braces in our discussion of misconceptions; they are rarely advisable in treating RSI and can actually cause much more damage. When these remedies don't work (as they usually don't), the doctor will often give cortisone shots, another anti-inflammatory and another temporary fix with additional side effects. Finally, a referral to a surgeon may be made. Surgery, in the case of RSI, has a much lower success rate than non-invasive techniques, so it is a risky approach at best.¹

Misconceptions

Splints and braces are advertised (and incorrectly recommended by doctors) as a solution to unexplained wrist, arm or elbow pain. Splints and braces immobilize your body. To facilitate the healing of broken bones, it is necessary to be immobilized. But this is not the case with RSI. When soft tissue is injured, scar tissue grows randomly and must be encouraged to grow in the right direction by movement. Therefore, certain gentle movements are necessary for proper healing, even though they may be somewhat painful.⁴ Movement also prevents scar tissue from adhering in the wrong places, such as to bones. Immobility can prolong healing or make an injury chronic by allowing scar tissue to grow in a manner that isn't conducive to proper functioning and flexibility.⁴ There are very few exceptions to this; therefore, use of a brace or splint should only be prescribed by a practitioner well versed in the treatment of RSI. Wearing a splint or brace while working will cause muscle atrophy, overuse of other muscles, and awkward postures, risking injury to other parts of your hand or arm. Though they may initially alleviate the pain of injured soft tissues, splints do a lot of harm in the process.

Stress balls have been promoted as a treatment for (or even prevention of) CTS. However, this is wrong information. Since RSI is an overuse injury caused by muscle tension, the last thing someone wants to do is to create shorter muscles by squeezing a ball. Deconditioned muscles are a risk for RSI, but it is very dangerous to attempt strengthening while you have pain. Muscles need to be massaged, stretched and relaxed, NOT contracted. Your injury will be aggravated if you attempt to strengthen before the muscles are lengthened.

Ice and heat. Ice reduces inflammation and is generally a good treatment for soreness. But it should not be used on your hands if you have Raynaud's Disease or Reflex Sympathetic Dysfunction (RSD).⁴ We will discuss these problems in upcoming articles, but be aware that ice is not always a good idea. Also, never use ice while you are working (e.g., resting your wrists on a gel pack while you are typing³), and never do stretches after icing.⁴ The tendons of your wrists can be injured if they are required to move and flex while they are stiff from cold. Stretching should be done more than 15 minutes after icing and should follow 5 minutes of warm-up exercises to allow your tissues to warm and become flexible again.⁴

Heat seems like it would feel good, but it should never be applied to inflamed tendons³ or any acute inflammation.⁴ It will cause further pain and inflammation. Heat is mainly good to relieve sore, tense muscles.⁴ Heat is appropriate for long-term rather than acute injury, and can be applied as a heat pack, paraffin bath, warm water, or ultrasound treatment.⁴

RSI disorders

We need to preface our discussion of the RSI disorders by saying that in most cases a person does not suffer from just one of these problems.^{1,3} There is usually a "constellation of symptoms" that change or move to new locations. If your right hand tingles, you need to treat the whole arm and possibly more!^{1,3} Understanding these diagnoses is important because it helps in understanding the nature of the soft tissue damage and leads to healing. From a patient's perspective, it is critical that you take an active role in your situation. Information is power. It will give you an awareness about what makes sense in your treatment and what doesn't, what questions to ask, and what you can do to make sure you heal as quickly and permanently as possible. Healing is possible! However you will never be cured. Once you have experienced RSI, you will always be at risk for re-injury. You can learn to modify your activities and habits so that you will be able to work and do most of the things you love to do, as long as you don't delay treatment until permanent damage is done.

RSI can be grouped into four different categories:

Muscle and Tendon Disorders:

Tendinitis, myositis, myofascitis, and muscle damage

- Shoulder Tendinitis
 - Bicipital tendinitis
 - Rotator cuff tendinitis
- Forearm Tendinitis
 - Flexor carpi radialis tendinitis
 - Extensor tendinitis
 - Flexor tendinitis
- Lateral and Medial Epicondylitis
- Ganglion Cysts
- Tenosynovitis
 - Stenosing Tenosynovitis
 - DeQuervains Disease
 - Trigger Finger

Tunnel syndromes/Nerve Disorders:

- Median Nerve Disorders:
 - Carpal Tunnel Syndrome (CTS)
 - Pronator Teres Syndrome (PTS)
- Ulnar Nerve Disorders:
 - Sulcus Ulnaris Syndrome
 - Cubital Tunnel Syndrome
 - Guyon's Canal/Tunnel Syndrome
- Radial Nerve Disorders
 - Radial Tunnel Syndrome
 - Cervical Radiculopathy

Nerve and Circulation Problems

- Thoracic Outlet Syndrome
- Hand/arm Vibration Syndrome
- Focal Dystonia (Writer's Cramp)

Associated Disorders:

- Raynaud's Disease
- Reflex Sympathetic Dystrophy and Reflex Sympathetic Dysfunction (RSD)

This article and all of our articles are intended for your information and education. We are not experts in the diagnosis and treatment of specific medical or mental problems. When dealing with a severe problem, please consult with a healthcare or mental health professional and research the alternatives available for your particular diagnosis prior to embarking on a treatment plan. You are ultimately responsible for your own health and treatment!

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